

SEAFOOD

NEW ZEALAND

**Bluff oyster
season delivers**

**The Moana
Project – testing
the temperature**

**A feed of fish
in a time of need**





OpenSeas^{NZ}

The Source for New Zealand Seafood Information.

Seafood production and procurement can be a complicated business. Finding the facts behind the New Zealand seafood industry shouldn't be.

FIND OUT MORE AT [OPENSEAS.ORG.NZ](https://openseas.org.nz) >



Features

- 09** **Feature:** A feed of donated fish in a time of need
- 14** **Feature:** Watching the fleet
- 18** **Cover Feature:** The Moana Project – testing the temperature
- 29** **Feature:** Hurst's passion for fisheries science continues



Regulars

- 06** **News:** Bluff oyster season delivers
- 12** **News:** Seafood NZ looks to hook jobs in keeping fishing industry afloat
- 24** **News:** Ocean Bounty hits the (air)waves for fourth season
- 26** **Event:** Inaugural awards showcase industry commitment to sustainability
- 32** **Best Fish 'n' Chips:** The Sands, Nelson
- 34** **From the President:** Don't let our enemies win the war



Recipe

- 41** **Recipe:** Harbour Fish's homemade fish stock



EDITORIALS

Published by Seafood New Zealand Ltd.

Postal Address:

PO Box 297
Wellington 6140
New Zealand

Physical Address:

Level 6
Eagle Technology House
135 Victoria Street
Wellington 6011
Phone: +64 (0)4 385 4005
www.seafoodnewzealand.org.nz



Editorial enquiries:

Email: editor@seafood.org.nz

Advertising enquiries:

Karen Olver
Phone: +64 (0)4 802 1513
advertising@seafood.org.nz

Subscriptions:

Seafood New Zealand is published for the New Zealand seafood industry. It is also available on subscription in New Zealand and overseas. Subscription rates are available on request. Seafood New Zealand is produced bi-monthly (six issues per annum).

Your Say:

Contributions of a nature relevant to the seafood industry are welcomed and industry participants are encouraged to contribute. Letters to the Editor should be signed and carry the writers' full names and addresses.

General:

The reproduction of articles and materials published in Seafood New Zealand, in whole or in part, is permitted provided the source and author(s), as applicable, are acknowledged.

However, all photographic material is copyright and written permission is required to reproduce it in any shape or form. Articles and information printed in Seafood New Zealand do not necessarily reflect the opinions or formal position of Seafood New Zealand Ltd unless otherwise indicated.

All material published in Seafood New Zealand is done so with all due care as regards accuracy and factual content. The publishers and editorial staff, however, cannot accept responsibility for any inadvertent errors and omissions that may occur.

ISSN 1172-4633 (Print)
ISSN 2538-0834 (Online)



In this issue

ISSUE #264:

Welcome to the October issue. Our cover story features the ambitious Moana Project, a partnership between scientists and iwi that seeks to gain greater knowledge of climate-driven changes in our oceans and the implication for seafood production and harvesting.

Challenges – and opportunities – abound in our industry and with a general election looming, Federation of Commercial Fishermen president Doug Saunders-Loder urges pushing back against the increasingly shrill anti-commercial fishing lobby.

Our increasingly important sector has much to celebrate. This issue includes coverage of a top season and a healthy outlook for the Bluff oyster fishery; the strong state of fish stocks according to latest scientific estimates; increased monitoring and transparency that is adding efficiency for fishers and that stands to reassure a sceptical public; a novel donation project by Dunedin fishers to help the needy; and the return of Graeme Sinclair's Ocean Bounty.

The industry's commitment to sustainability was recognized at inaugural awards hosted by Fisheries Minister Stuart Nash and we have all the winners. They include NIWA's chief fisheries scientist Dr Rosemary Hurst who oversees research that underpins the management of New Zealand's wild fisheries. The supreme winner was Richard Wells, who has led initiatives to avoid the risk to protected species from seafood sector activities.

The 2020 Seafood Stars Awards winners are also featured, covering innovation, longstanding service and young achiever. A fourth category, a Covid-19 response award, was generated in recognition of the outstanding leadership and initiatives shown during the pandemic.

Our best fish 'n' chips column continues to celebrate the country's number one takeaway – this time we profile a Nelson winner. We also feature food safety, the view from the regulator, Fisheries New Zealand, and another delicious seafood recipe.

All this and more in the vibrant voice of the seafood sector.

Tim Pankhurst
Editor

Fish stocks in very good health

Dr Jeremy Helson



The latest sustainability review by the Ministry for Primary Industries is a ringing endorsement for the Quota Management System (QMS).

Leaving aside frostfish (which was changed for

administrative reasons), Fisheries Minister Stuart Nash announced catch increases for 24 of the 25 stocks assessed, with only the Southland (BCO5) blue cod catch decreased.

The industry is constantly accused of recklessly depleting fish stocks by those who know little of the science – that science demonstrates we are not.

It is incontrovertible. New Zealand's fish stocks are managed in a way that is the envy of the world.

Orange roughy, scampi, black cardinalfish, rubyfish, two stocks of silver warehou, two of gemfish, sea perch, porae, rig, stargazer, snapper, red gurnard, deepwater king clam and four stocks of kingfish have all had their catch limits increased.

The industry takes its sustainability responsibilities seriously. The good news in this round is testament to that. And even when not told to decrease our take, the industry, as was the

case with East Coast North Island rock lobster and West Coast hoki, voluntarily reduces the catch.

Of course, we will never silence the critics, most of whom base their views on an emotive anti-commercial fishing agenda. It is difficult to refute an argument when the antagonist refuses to listen to science or facts.

But that doesn't mean we shouldn't try to correct mistruths as frequently and loudly as we can.

The article in this edition called "Watching the Fleet" will astound some of those critics. The level of transparency already adopted by the commercial fishing industry is state of the art and something no other industry replicates.

Over and over again, the QMS is held up as best practise internationally.

The FAO's annual State of World Fisheries and Aquaculture report says: "It is becoming increasingly clear that intensively managed fisheries have seen decreases in average fishing pressure and increases in average stock biomass, with many reaching or maintaining biologically sustainable levels, while fisheries with less-developed management systems are in poor shape".

In other words, a good fisheries management scheme is the only path to sustainable fisheries globally.

New Zealand has an excellent example and our healthy fish stocks reflect that.

OCEANLAW NEW ZEALAND

The only law firm in the South Pacific dedicated to the sea



New Zealand's specialist fisheries and maritime law practice delivering results to the country's seafood industry since 1998.

Our practice is one of the country's pre-eminent advisers in this specialist field.

We look forward to serving you in the future.



Mike Sullivan
Partner
021 274 3590
mike@oceanlaw.co.nz



Justine Inns
Partner
027 2275 324
justine@oceanlaw.co.nz



Hamish Fletcher
Partner
027 220 5122
hamish@oceanlaw.co.nz



Karyn van Wijngaarden
Associate
027 479 4345
Karyn@oceanlaw.co.nz



Hayley Campbell
Senior Solicitor
027 533 1350
Hayley@oceanlaw.co.nz



Kim Proctor-Western
Special Council
027 4800 690
kim@oceanlaw.co.nz

Montgomery House, 2nd Floor, 190 Trafalgar Street, Nelson 7010. Freephone 0800 Oceanlaw. www.oceanlaw.co.nz

Bluff oyster season delivers

Tim Pankhurst



In recent years the bonamia disease has been the bane of the Bluff oyster fishery.

This season it was the Covid-19 virus that caused early headaches.

The sold-out Bluff Oyster Festival in May was cancelled in the wake of the travel lockdown across the country and supply chains were disrupted.

Despite those challenges, the season has been a success and the prospects look good for future years.

It was almost like the start of the season again with another boom in sales once the Covid restrictions were eased, Barnes Oysters general manager Graeme Wright says.

The fishers are always wary of disease but there is no sign of the bonamia ostreae disease that has destroyed the farmed oyster industry on Stewart island and in the Marlborough Sounds.

The wild oysters are infected with a different strain of bonamia – exitiosus. It is not harmful to humans but has devastated the fishery in the past and forced its closure for three years in the late 90s.

But that disease was at low levels this year while recruitment was improved.

That bodes well for next year and beyond.

There had been low recruitment in recent years, but the indications are the cycle is heading upwards.

“Some of our fishers are reporting the number of juvenile oysters are extraordinary. They have not seen the like for years.”
– Graeme Wright

“Some of our fishers are reporting the number of wings (juvenile oysters) are extraordinary,” Wright says.

“They have not seen the like for years.”

The juvenile oysters settle on adult shells and the clumps are either knocked off and returned to the sea or both the adult and its passengers are sent back.

The rich Foveaux Strait resource was again fished conservatively with licence holders electing to leave about 40 percent of the Total Allowable Commercial Catch (TACC) in the water.

The total catch was again set at a conservative 15 million oysters, estimated to be only two percent of the total biomass, but it was agreed at the start of the season in March to catch only half of this.

A positive mid-April review led to a one million addition, making a final season tally of 8.5 million oysters landed.

The weather was generally favourable.

“There were a few bumps in there,” Wright says. “But it wouldn’t be Foveaux Strait and Southland without that.”

Barnes set their retail price at the Invercargill shop at \$26 a dozen for first grade, similar to last year.

“It’s always been Barnes policy to hit a realistic price and manage around that,” Wright says.

“Southlanders love their oysters. We like to deliver a good, honest price.”

He says it was not uncommon for business travellers heading back to Christchurch or Auckland on a Friday afternoon to order 40 dozen or so.

“We’ve got a couple of taxis that call up and say I’m on the way out to the airport, have you got 20 dozen packed up?”

There are only 12 boats fishing the oysters now, half the number before the introduction of the Quota Management System.

Barnes processes about two thirds of the catch, with Ngai Tahu the next biggest operator. The Foodstuffs supermarket chain also has a small holding.

Seven companies make up the Barnes co-operative – major players Sanford, Independent, United and Skeggs and locally-owned Campbelltown Seafoods, Rita Kay Fishing and Mountfort.

A loyal band of openers worked through the winter, most returning from previous years.

The veteran of a what could be fairly described as a generally mature age group was Errol Ryan, 82, a former oysterman and member of the extended Bluff-based Ryan clan.

The majority of the fleet finished fishing 10 days before the end of the season on August 31.



Barnes Oysters general manager Graeme Wright.



JOIN US IN TAKING NEW ZEALAND TO THE WORLD.

THERE'S NEVER BEEN A BETTER TIME TO CARRY THE FERNMARK.

With consumer trust in New Zealand riding high around the world, there's never been a better time to carry the FernMark Licence logo on your brand or product – and we would love to help you do it.

Join the growing number of successful New Zealand exporters who have become FernMark Licensees and harness the power of the FernMark Licence Programme.

- ▶ Leverage New Zealand's positive international reputation.
- ▶ Promote trust, credibility, and authenticity.
- ▶ Give your products and services instant country of origin recognition.
- ▶ Enhance consumer confidence with a government tick of approval.
- ▶ Benefit from our IP protection in 23 key export markets.

Apply by 31 October and receive 20% discount on your first year's annual licence fee.

**TO FIND OUT MORE GO TO
NEWZEALAND.COM/FERNMARK**



**THE
NEW ZEALAND
FERNMARK
LICENCE
PROGRAMME**



A feed of donated fish in a time of need



Ant Smith's vessel, the Donna Maria.

For those dealing with poverty in New Zealand the aftermath of the Covid-19 pandemic is a grim reality. However, in Dunedin the fishing industry has offered a helping hand. LESLEY HAMILTON writes about a collaboration between fishermen and foodbanks.

When you think of poverty, Dunedin is not the first city to spring to mind. Treed, gentrified and dripping in history it wears its Scottish roots with pride.

However, poverty is there, as it is in all reaches of New Zealand, and those who minister to the needy say the Covid-19 pandemic is rapidly making things much, much worse.

There are four foodbanks in the Dunedin region, run by The Salvation Army, St Vincent de Paul and Presbyterian Support, with another small community-run operation in nearby Mosgiel.

David McKenzie of The Salvation Army says they all work closely together and share resources.

He says they were approached by Chanel Gardner of local seafood business Harbour Fish earlier this year to

see if they could help out by supplying fish to the region's needy.

"We've never had fish in our food banks before but, to be honest we generally had little meat either."

The initiative began when Ant Smith, who heads up the Port Chalmers Fishermen's Cooperative, approached Harbour Fish to see if they, being a Licenced Fish Receiver (LFR), would be prepared to process and store the fish caught by the Cooperative's 28 fishing vessels.

Smith says what he thought would be the most difficult part, which was getting the quota holder to give up valuable Annual Catch Entitlement (ACE) for the scheme, turned out to be the easiest.

"Talley's were awesome. They didn't hesitate," he says, "and Chanel and Aaron at Harbour Fish have been brilliant."

David McKenzie says Gardner spoke to the foodbank collective about the idea and then chose The Salvation Army to coordinate the scheme among the four foodbanks.

The first deliveries were made late August and McKenzie says they have been a real hit.

He says Harbour Fish is supplying recipes with the fish and that is particularly important.

"Some of our clients' cooking skills are very basic.

However, everyone we have offered fish and a recipe to has



Harbour Fish processes the fish caught by Port Chalmers fishermen.

been both surprised and delighted to get it in their food parcel. One person said he had never cooked fish before but was keen to give it a go," says McKenzie.

Chanel Gardner says the initiative has shown the fishing community in their true light.

"What struck me when Ant called to pitch this idea is that despite all the adversity fishers are up against his primary concern was simply to give to those in need. Our industry is under attack from all angles currently, more so than ever before, and Ant and the fishers just want to give back to those who need it.

"Finding positive and accurate press about those who sustainably harvest seafood is nigh on impossible in the current political arena so being able to focus on an initiative where the fishers are doing an act of kindness is really refreshing," says Gardner.

McKenzie says with Covid highlighting the need for good food in the community they are starting to see more awareness and have started seeing meat, as well as fish, supplied. He says they ask the recipient what they would like.

"We let them have the choice of whether they want meat



President of the Port Chalmers Fishermen's Cooperative, Ant Smith.

or fish," says McKenzie.

The Salvation Army, and other agencies agree that the need is increasing but say the responses need to be local.

During lockdown the Civil Defence response was helping people who could not get out to the supermarket as well as those who could not afford to buy food.

The level of need in Dunedin has not been the same as other places, particularly Auckland.

McKenzie says they have found that many foodbank users have managed remarkably well through lockdown, but they are anticipating, and are planning for, the impact of the wage subsidy coming off and further redundancies.

He would like to see this scheme rolled out around the country.

"One of the things I love most is the connection with the local fishermen and the local plant and processing people at Harbour Fish. That connection between locals is so important," says McKenzie.

Ant Smith agrees. He says expanding this out around New Zealand would be great, both for the real help this could give families in need and for the connection with the community that local fishermen could benefit from.

"The guys fishing for us are doing a great job in a really bad time. They have managed to catch enough fish for a couple of hundred foodbank meals so far and I just want to say thank you to them.

"They have families of their own, are dealing with all sorts of barriers to their own livelihoods but they just want to help."



Wake up to fatigue

WHAT WAS THAT
THING I WAS MEANT
TO BE DOING?

GETTING SOME
SLEEP, SON.

Are you experiencing any of these signs?

MOODY

Feeling grumpy
Not saying much
Getting frustrated
Not caring

DISTRACTED

Stuck on one part
of a problem
Can't stay focused
Can't make sense
of a situation
Can't finish tasks
Forgetting things

UNPRODUCTIVE

Cutting corners to
get things done
Can't properly judge
distance, time or speed
Doing things in the
wrong order
Can't think logically
Making mistakes

TIRED

Yawning a lot
Nodding off
Slurring speech
Got sore eyes or
blurry vision
Feeling clumsy or slow

Do these risks ring alarm bells?

- ☐ Been awake for more than 16 hours
- ☐ Short of sleep
- ☐ Slept badly
- ☐ Are working alone in the early morning hours
- ☐ Feel exhausted

Be aware that it's possible to both look and feel alert when being at risk of falling asleep. If **two or more of these risk factors ring true**, you're fatigued and at risk of falling asleep.

ACT NOW!

- Tell another crew member
- Get some sleep (ideally around 2 hours – including at least 15 minutes to wake up)
- Drink some water
- Eat a light meal or snack
- Do a job with minimum risk

SAFETY =  + HSWA

For tips on safe fishing go to
www.maritimenz.govt.nz/fatigue

Safe crews fish more

Nō te rere moana Aotearoa
 **MARITIME**
NEWZEALAND

Seafood NZ looks to hook jobs in keeping fishing industry afloat

Tim O'Connell



Nelson Maritime Institute of Technology students exercising their maritime engineering skills.

The seafood industry has stayed afloat during Covid-19 rough seas, but it says getting more people involved on and off the ocean will ensure its future.

Representatives of Seafood New Zealand visited Nelson in September, one of 15 port stops around the country to gauge “what is happening at the coal face” as it weathered the economic effects of Covid-19.

The delegation met with prominent seafood companies Talley's and NZ King Salmon, Nelson Mayor Rachel Reese and MP Nick Smith as well as Plant & Food Research at Port Nelson and the Cawthron Aquaculture Park at Glenduan.

The group also visited Nelson Marlborough Institute of Technology's maritime studies department where they spoke with students and received a demonstration of the world-class bridge and engine simulators.

Seafood NZ chief executive Dr Jeremy Helson says the initial wash-up from Covid-19 had been positive in the sense that the industry had been able to continue operating as an essential service.

However, companies like Sanford had already shown a need to adapt its operations in the face of Covid-19.

“There are some issues with getting products out of New Zealand because of markets contracting,

particularly in the food service and air freight is a problem due to lack of capacity and increased cost," Helson says.

Maintaining and filling roles within the industry was another crucial aspect that needed to be watched in the coming months, especially with a drop in foreign workers on deep sea fishing vessels.

"The natural turnover of people on these vessels is 300 to 400 a year and then you've got the foreign crew from which you have several hundred again," Helson says.

"We're going through those issues right now with immigration trying to get replacements for those deepwater crew – they can get in with essential worker status, but the big issue is quarantine.

"Once they get the tick from immigration it's then a matter of getting them into a health facility and out the other end."

Helson said the value of primary industries like seafood was not only important to regional economies like Nelson but to the entire country's.

"If we're borrowing \$50 billion to keep New Zealand afloat through Covid-19, then we're going to have to pay that back and that requires export dollars."

NMIT primary industries and adventure tourism curriculum manager Monique Day said the maritime institute had seen its superyacht and online learning numbers remain steady, while the Marine Engineering Class Six course (MEC6) was seeing an increase in women enrolling.

Peter Maich has been the owner and director of the Westport Deepsea Fishing School for 21 years.

As well as offering standard industry qualifications to those already involved at sea, his pre-employment courses offered a chance for new entrants in the fishing industry to get their foot in the door, whether they were school leavers, people changing careers or on the benefit.

Each year around 120 people take the pre-employment course with an 80 per cent completion rate among students.

Maich said a similar percentage were still in work six months later.

"We're getting a lot of applications right now and the time from application to starting at school is shortening and I think the Covid benefit that some were on could stop soon so they'll start to look for work.

"We can take someone that's unemployed or changing careers – put them in a six to eight-week course for a level two seafood processing qualification – they'll leave my course and go straight into work where you're starting on anywhere from \$45,000 to \$65,000."

"Eighteen months later you could earn up to around \$90,000 a year and you're still a labourer and haven't gone into a key or managing people."

Maich said many people were unaware of the wages within the industry and while several weeks at sea was not for everyone, the rewards were there for those willing to stick it out.

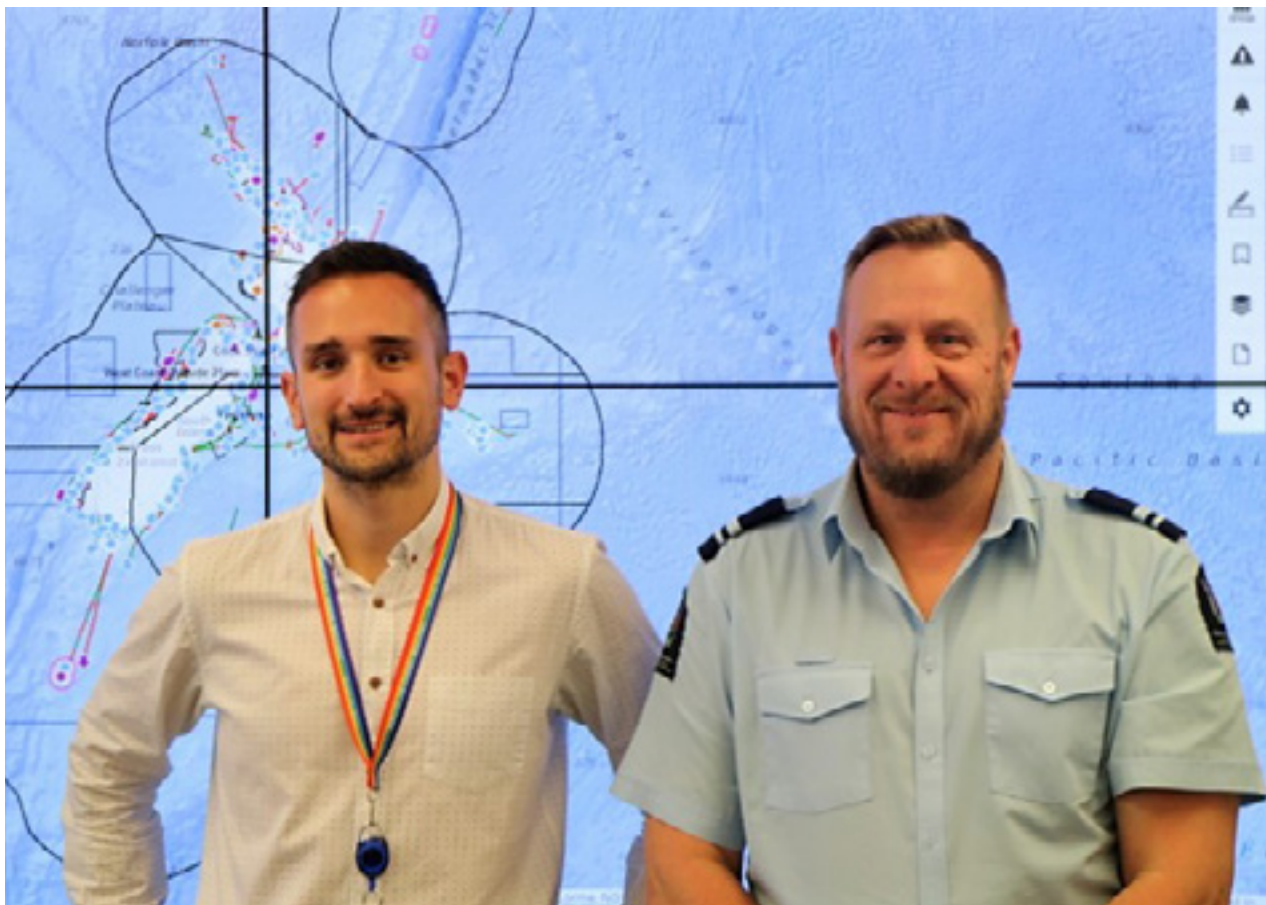
"There's no real hardship, it's just the time away from home and just a matter of getting used to it – you get four to six months off each year – what else do you like doing? Well, you get paid to do it."

Article republished with permission from Stuff Ltd.



NMIT houses world-class bridge and engine simulators to emulate advanced maritime training before students take to the water.

Watching the fleet



Darko Petrovic and Steve Ham.

In a nondescript government building in the Lower Hutt suburb of Petone the entire New Zealand commercial fishing fleet is being watched. Where they are, what they are catching, what is being discarded, how fast or slow the vessel is moving, and much, much more is being recorded. LESLEY HAMILTON reports.

This will no doubt be a surprise to the New Zealand public who believe the fleet operate covertly over the horizon with no checks and balances with widespread bad behaviour.

Well, do we have a tale to tell you.

Let me introduce you to Waka Haurapa – the boat tracker.

Waka Haurapa is a system that displays both Geospatial Position Reporting (GPR) and Electronic Reporting (ER) data onto a very large screen that sits on the wall of the Ministry for Primary Industries (MPI) compliance office in Petone.

Steve Ham, MPI's national manager of fisheries compliance, is showing us the system. The screen is filled with moving dots around the coast of New Zealand. Every dot is a commercial fishing vessel.

"At the moment, we have more than 900 vessels reporting to the system but on any one day there are 400 on average. The reason you do not see the other 500 is they will be vessels in port or not currently fishing," says Ham.

The system can even show whether the vessels are moving or stationary and whether they have an MPI observer onboard. It also allows MPI to search for a vessel that is fishing for a particular species. Different layers can be placed over the screen so you can see marine reserves, Benthic Protection Areas (BPAs), and

“Two weeks ago, there were 12 fishers we were following up with and only 120 late returns submitted. This is a huge improvement.”
– Niamh Murphy

other restricted fishing areas around the coast of New Zealand and within our Exclusive Economic Zone (EEZ).

Ham says the system is not solely a compliance tool.

“We don’t sit here watching it 24/7. It has an alert-based system that notifies us if a vessel has strayed into a protected area, but mostly it gives us a rich overview of the maritime landscape. Who is where, when, and it covers the reported catch so catch trend analysis can be performed in near real time.”

Darko Petrovic is a senior compliance analyst and is operating the system. He points to the Wellington coastline.

“Here is Island Bay and we have the marine reserve geo-fenced so we can identify vessels that go in and out of there. We get email alerts anytime a vessel goes in and out of a marine reserve throughout the country. We cooperate with the Department of Conservation to monitor whether any fishing activity has taken place, or

whether they are just passing through.”

MPI’s fisheries compliance liaison & coordination team manager, Niamh Murphy says there is often a perception from the public that a vessel is fishing in an area where it should not be.

“We can now categorically say, they’re not, they’re transiting the area – and we don’t even have to involve the vessel. So, it has created efficiencies in ways that we don’t often get to tell people about.”

This monitoring is possible after the introduction of ER/GPR last year, a mammoth change from paper-based reporting.

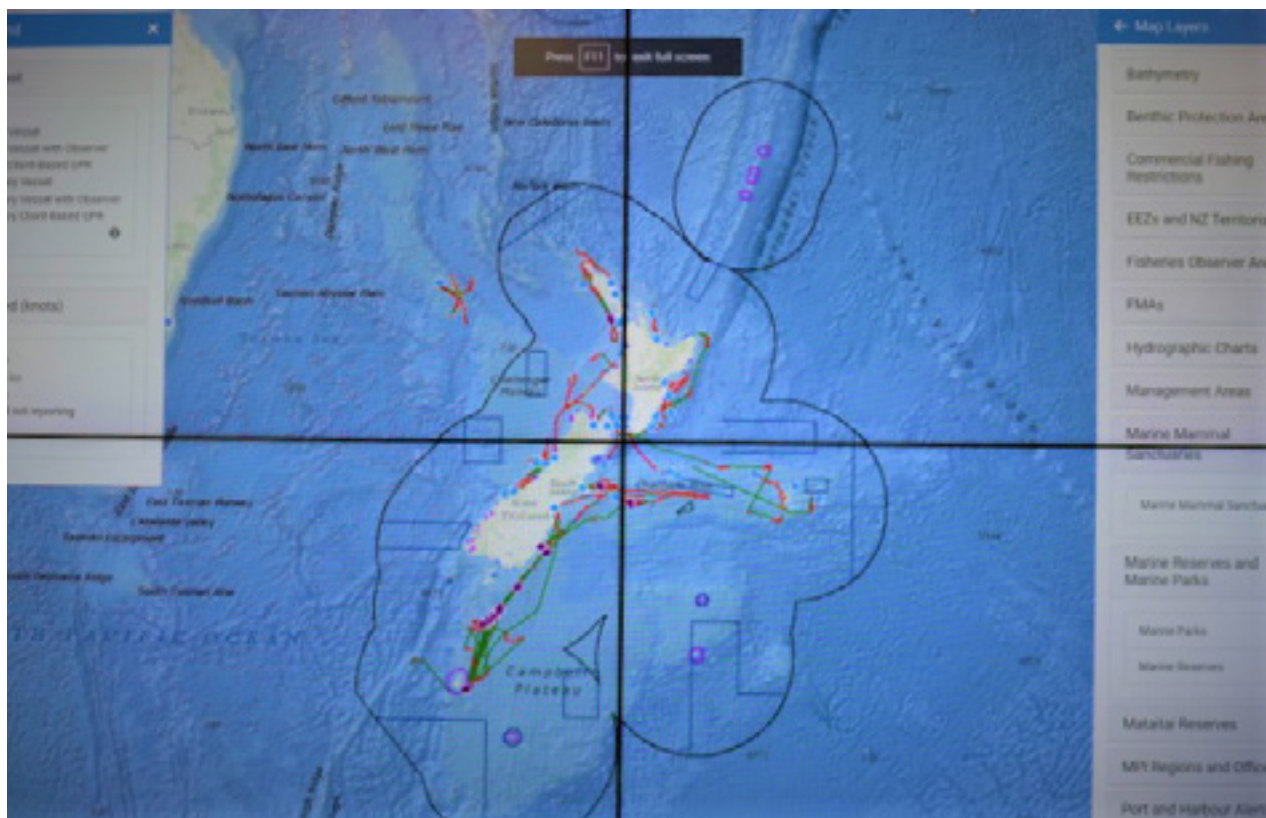
Ham says the industry had been fishing and reporting in the same way for 30 years under the Quota Management System (QMS).

“It is taking a bit of time to transition but there wouldn’t be too many industries that have done it at such a speed and got on board with it. And you can see it right here on the screen. It just gives you that next level of transparency.”

Ham says you can’t underestimate the change for some fishers.

“There were people who didn’t know how to turn on their iPad. In December last year, when electronic reporting was new, we had around 3000 late returns a week that had to be followed up. Two weeks ago, there were 12 fishers we were following up with and only 120 late returns submitted. This is a huge improvement.”

Murphy says society has been forced to embrace



Green lines depicting a vessel is moving and red showing it is stationary.



Inputting data on a vessel.

"One fishing sector group came to us and told us they had a marine biotoxin incident and needed to know whether fishing was occurring in the area so they could alert fishers. We could give them that information in about an hour."

– Darko Petrovic

technology, like it or not. But that should not detract from what the industry has been able to achieve in a year.

Ham agrees. "They've done a good job. There have been challenges with some fishers, especially if they are a one-man band. There have been issues raised about safety at times, but they are working through that and I think as this evolves there will be changes to the system. But technically there have not been many issues."

There are three providers of the app technology for fishers; Electronic Navigation Limited (ENL), Deckhand, and eCatch and it is up to the fishers which one they use to report their catch.

"So, what the geospatial team have put together is a data portal which enabled fishers to replicate MPI's 'lines on maps' on their own plotters."

– Steve Ham

Murphy says the systems were designed for usability. "Drop down lists so you can't transpose the acronym for the species. Beforehand there was difficulty reading handwriting or a decimal place was in the wrong spot."

As well as GPR recording a vessel's every move, the amount of information that must be reported is extensive. Reports on species of catch, disposal of fish, processing, method of catch, capture of non-fish protected species, and times of trip start, and trip end are just some.

All of these details can be seen on the screen in Petone in near real time and every trip the vessel makes is recorded in its trip history.

Ham says the rich data is also helping the industry.

"One fishing sector group came to us and told us they had a marine biotoxin incident and needed to know whether fishing was occurring in the area so they could alert fishers. We could give them that information in about an hour."

Petrovic says another system sits alongside Waka Haurapa.

"We also use AIS, which is a global vessel tracking system to monitor foreign vessels coming close to our EEZ."

Automatic Identification System (AIS) is used by around 500-600,000 vessels around the world and Petrovic says it allows them to monitor New Zealand's borders and alert the navy or air force patrols to any suspected unreported fishing inside our EEZ.

Waka Haurapa has also mostly solved a problem MPI and the fishing industry have had for 20 years. The problem colloquially called 'lines on maps'.

Ham says the hoki management area is a classic example.

"Every year we would get into a situation where we would say to deep water operators 'you can't go over that line'. And every year we would end up in a discussion on where that line was as interpretations could differ. So, what the geospatial team have put together is a data portal which enabled fishers to replicate MPI's 'lines on maps' on their own plotters. So, now both MPI and fishers are all looking at the same 'lines on maps'."

Ham says more information will be loaded onto portals.

"The Deepwater Group wanted the hoki management areas put on the portal this year, so we got them loaded on. And that will be ongoing as other users tell us what would be useful to them. The new

Maui and Hector's dolphin Threat Management Plan closures came into effect on 1 October and they will be loaded on for the industry to access."

Petrovic points out other examples; the hoki spawn areas in the Cook Strait, areas where you can't fish with a Precision Seafood Harvesting system, and kina restrictions in Wellington Harbour.

While alerts are on marine reserves and BPAs around New Zealand's coast, the system works in reverse on the high seas, where vessels are licensed to fish only in certain areas. If they go out of those areas an alert is sent to MPI.

Murphy says it doesn't mean the vessel has done anything wrong; "It just means we may need to monitor and make sure they don't start fishing where they are prohibited."

Ham says if there is one more tool he could have, it would be a dockside monitoring scheme.

"A lot of the misinformation out there is around what is landed. A number of countries, including Australia and Canada, already independently verify the fish that is unloaded. We need to be able to verify what was caught and provided to the Licensed Fish Receiver. It

"There is a really good story there. This is where this fisher was on this day at this time when he caught that fish on your plate with this method."

– Steve Ham

would not be every vessel or every occasion – random testing if you will. It's just another level of verification to aid greater transparency."

Ham believes there is a real opportunity for the industry to use the technology as a marketing tool.

"There is a really good story there. This is where this fisher was on this day at this time when he caught that fish on your plate with this method."

He says once fleet-wide cameras are implemented that information will also be folded into the system, giving an end-to-end assurance of the fisheries system.

"We all know cameras are coming but we should still be celebrating the steps we've made in transparency already."

MPI is keen to show off the technology. Because of commercial sensitivities around the information on the screen about specific fishing operations, they are able to anonymise data or seek permission from operators to view their vessels.

"We should be talking about this. If companies have skippers in town, bring them out to have a look at their own vessels on screen. We will be inviting media in to have a look. The more people know about how much we have achieved in the transparency stakes the better."



**End-to-end cargo care.
We've got it down cold.**

Hamburg Süd's seafood credentials go way beneath the surface. First there's our reefer equipment – high-tech is an understatement. Then there's our Remote Container Monitoring (RCM) capabilities which include real-time reporting and pre-landing certification. You get the ultimate in cold-chain protection plus the security of on-line status updates and remote-control options too. How cool is that?

For hands-on help from our local experts:

Outbound: 0508 222 444

Inbound: 0508 333 666

HAMBURG SÜD

www.hamburgsud-line.com



COVER FEATURE

The Moana Project – testing

The Moana Project – a collaboration led by MetService’s Raglan-based MetOcean Solutions – aims to put New Zealand at the forefront of ocean forecasting capability. TIM PANKHURST reports.

the temperature

The Moana Project sensor inside a yellow 'tough jacket' that provides protection in harsh environments and buffers against large impacts. Image; Steve Hussey.



MetOcean Solutions and Moana Project's 14 partner organisations; including: Whakatohea Maori Trust Board, all of NZ's Oceanographic institutions, technology partner ZebraTech and the Ministry of Business, Innovation and Employment. Image; Simone Magner.

The seafood industry is at the heart of world leading ocean research, supporting data amassed from high-tech, low cost instruments mounted on fishing vessels.

Six vessels have been trialling temperature sensors in New Zealand, with at least 10 due to be fitted by the end of this month (October).

The Tasman Sea is warming at one of the fastest rates on Earth – up to three times the global average. The summer of 2017-18 was particularly severe, the sea temperatures the hottest ever recorded in New Zealand waters. Climate change is predicted to make marine heatwaves more frequent and more intense.

Three rock lobster boats and three trawlers have been involved in the initial trials in the Marlborough Sounds, Nelson, West Coast, Tauranga and the Bay of Plenty, according to Dr Julie Jakoboski, data team leader.

Two vessels in Northern Hemisphere waters have also been trialling New Zealand-manufactured sensors through the Denmark-based Berring Data Collective which collates and disseminates international research.

"Commercial fishing gear is a cost-effective platform for collecting oceanographic data," the collective's website states.

"Fishing gear is a free ride for sensors, so fishermen are fishing for data and fish at the same time.

"Today the collection of oceanographic data, especially subsurface data is expensive. The high costs

of data collection make longer term monitoring not viable. The resulting data shortage holds back advances in a wide range of sciences and industries.

"A network of fishing vessels can provide cost effective and real-time data profiles around the world."

The extensive oceanographic work being undertaken in this country – termed the Moana Project – is funded for \$11.5 million over five years through the Ministry for Business, Innovation and Employment's Endeavour Fund.

The work, spear-headed by MetService's oceanographic division, MetOcean Solutions, includes Victoria, Auckland, Waikato and Otago universities, the National Institute of Water and Atmospheric Research,



ZebraTech managing director John Radford with the Mangopare sensor that he and his team designed and manufactured.



These low-cost, high-tech smart sensors will transform the ability to collect vast amounts of ocean temperature data. Image; Steve Hussey.

Cawthron Institute, Ministry of Primary Industries, Terra Moana and the seafood sector – including Seafood NZ, Paua Industry Council, NZ Rock Lobster Industry Council, Fisheries Inshore NZ and the Deepwater Group.

A stellar collaborative team is also working with international experts from the US - Rutgers, the state university of New Jersey and the University of Hawaii, Australia's Integrated Marine Observing System and the University of New South Wales.

Another key component is mātāuranga Māori, reflecting the incorporation of traditional Māori knowledge with Western science.

"This includes learning from iwi about their oceanographic knowledge honed over centuries of ocean voyaging, kaimoana gathering and the observed changes to our oceans," says Maui Hudson, one of the project's team leads.

"Eastern Bay of Plenty iwi Whakatohea Māori Trust Board are partners in the Moana Project and their coastal rohe and aquaculture mussel farm will be a key case study through the project."

The iwi, which has been in the Opotiki area for about 900 years, has built up knowledge of the land and sea over many generations.

Whakatohea, through its development company Whakatohea Mussels Opotiki Limited (WMOL), has developed the first commercial offshore mussel farm, serviced by two boats, 12km off Opotiki.

The trust has 3800 hectares of open ocean farm



Five Mangopare sensors (blue) were mounted on a cray pot with zip-ties in an early trial. Image; ZebraTech.

leased to WMOL, which is in its fourth harvest.

A mussel processing factory is under construction, due to open mid next year, and will provide dozens of jobs for the local community through the Opotiki District Council.

WMOL has received a \$19 million Provincial Growth Fund grant and a further \$79 million has been allocated for port development.

"Opotiki was once a thriving town," Whakatohea Trust Board chair Robert Edwards says. "They had a dairy factory, they had a meat factory, a bacon factory – all those things have closed down. Opotiki really went backwards and it was really struggling – a very depressed town. We could see that getting this mussel farm going would be an opportunity to rebuild the town."

"With a lot of investment, the paramount thing is to make money, but here in Opotiki the paramount thing is to bring our town to life and to create work for our people."

Iwi development manager Danny Paruru says the aim

"Fishing gear is a free ride for sensors, so fishermen are fishing for data and fish at the same time."

– Dr Julie Jakoboski

COVER FEATURE



From top: Moana Project's team leaders, Dr Julie Jakoboski and Maui Hudson, Maori Trust Board iwi development manager Danny Paruru, Jonathan Gardner (also a team leader), ZebraTech managing director John Radford and Moana Project director and science lead Dr Joao de Souza.

is to recreate the prosperity of the past before land confiscations.

A better relationship between government, iwi and research organisations was helping inform tribal decisions around coastal planning, aquaculture development, cultural and environmental management.

Victoria University's Prof Jonathan Gardner is working closely with the iwi as the lead primary investigator for a part of the project focusing on paua, greenshell mussels and rock lobsters and how ocean changes will affect the gene flow connectivity of these important species.

The majority of mussels grown in an industry that returns around \$300 million in exports annually wash up as spat attached to seaweed on Te Oneroa a Tohe/ Ninety Mile Beach on Northland's west coast.

"We are using physical oceanography modelling to identify the likely source," Gardner says.

"We get mussels for free. The question is: where do they come from?"

"As a nation we are trying, for the first time, to really understand the impact of marine heatwaves on New Zealand's marine realm and in particular on kaimoana – both aquaculture and fisheries. This project will deliver real benefits to iwi, to marine-related industries and to New Zealand at large."

"As a nation we are trying, for the first time, to really understand the impact of marine heatwaves on New Zealand's marine realm and in particular on kaimoana."

– Jonathan Gardner

Whereas international models could only reach a resolution of 10 square kilometres of ocean, the fine scale of the Moana Project will ultimately enable a more detailed picture of five square kilometre blocks.

The sensors that are essential to the research are home grown, developed by Nelson-based ZebraTech.

Managing director John Radford says their design was built on work done for the rock lobster and paua industries.

Wet Tags were developed for cray pots, measuring temperature and soak time, with data relayed to a deck logger.

Turtle data loggers worn by paua divers provided water temperature and depth measures and catch data.

Radford says the Moana trial phase is going well, before proceeding to a much wider rollout.

The sensors operate to a depth of 1000-metres and are battery powered for two years.

Measurements are recorded every one-metre depth change between 0 and 200m and every four-metres beyond that to 1000m in deepwater trawls while gear

is being set or retrieved and every five minutes when stationary, as with pots on the sea floor.

Timing of the full programme, costs and number of sensors are still to be determined.

"The sensor work we're doing is hugely innovative internationally, we're really leading the way," MetOcean's Jakoboski says.

A former mechanical engineer with America's National Aeronautics and Space Administration Jet Propulsion Laboratory, whose work included measuring winds over the oceans to the composition of the atmosphere of Jupiter, Jakoboski joined the project a year ago.

The team that has been assembled has drawn top talent from around the world.

It is led by a Brazilian, Dr Joao de Souza, also based at Raglan, an ocean modelling expert whose work has included analysis of deep circulation of the Gulf of Mexico.

"With the enhanced ocean knowledge this project will provide, New Zealand will be better prepared for the changes in our oceans and the impact of warming seas on our coastlines and marine environments," he says.

This innovative sensor design and project scale is attracting an enthusiastic international response, Jakoboski says.

"Our sensors are designed specifically for fishing gear.

"The sensor work we're doing is hugely innovative internationally, we're really leading the way."

– Dr Julie Jakoboski

This means that we get consistent data even in what can be a harsh environment. There is no cost involved to the fisher and once installed no intervention is required from them. Installation of the hardware is generally easy and can usually be done within 15 minutes.

"No vessel or catch information is collected. All data that is collected remains the property of the fisher and is treated confidentially. Participants will be able to access their own data.

"Long-term, the Moana Project will provide fishers with improved marine forecasts, while the ocean temperature information will help them improve their sustainability by finding the fish they want and avoiding bycatch."

Fishers wanting to learn more or to have a sensor on their vessel will find a ready reception at info@moanaproject.org on email, or can visit the www.moanaproject.org website.



A pohiri was held at Omarumutu Marae, Opotiki, on July 30 to launch the Moana Project. Image; Simone Magner.

Ocean Bounty hits the (air) waves for fourth season

Lesley Hamilton



It has been a runaway success, attracting hundreds of thousands of viewers and now Graeme Sinclair is back for season four of Ocean Bounty.

It's been a tough year for Sinclair, but he is perennially upbeat.

Health concerns aside, he has once again managed to put together a brilliant series of programmes to make up series four of the show.

Debuting on Three, Saturday 24 October at 5pm, the first episode is an inspirational story featuring Amaltal Explorer skipper Duncan Bint who graduated from the Westport Deepsea Fishing School, the start of many a seagoing career.

The founder of the school Micky Ryan explains the school's principles and philosophy and director Peter Maich talks about the course selections.

In subsequent episodes we follow the vessel Galatea fishing for hoki in the Hokitika trench and examine the science supporting stock assessments.

This season Ocean Bounty takes us to the scenic Stewart Island where Sanford grow salmon in Big Glory Bay for the local and export markets. The company is also investing back into the Stewart Island community by sponsoring and supporting local projects.

A diverse bunch of people in Dunedin see collaboration as the way to manage our marine resources and they have banded together. The programme follows local fishing clubs, commercial fishers, recreational fishing lobby group Fish Mainland, iwi and environmental groups who are working together to develop a robust strategy that will ensure the resource our kids inherit is at least as good as it is today.

The Hauraki Gulf is the subject of one episode where the impacts of population growth are covered and how the Gulf is managed in a way that is appropriate for all users.

Ocean Bounty also highlights the technology used to plot the population of the endangered Maui dolphin and follows the skipper sent to rescue a Sanford crew stranded in the Falkland Islands when flights halted because of Covid-19.

And we meet Graeme's son James who joins the crew of Sealord's state of the art new factory trawler Tokatu as a new recruit.

Make sure you diary 5pm Saturdays on Three from 24 October.

For up to date information check out Ocean Bounty's Facebook page: <https://www.facebook.com/OceanBountyNZ/>



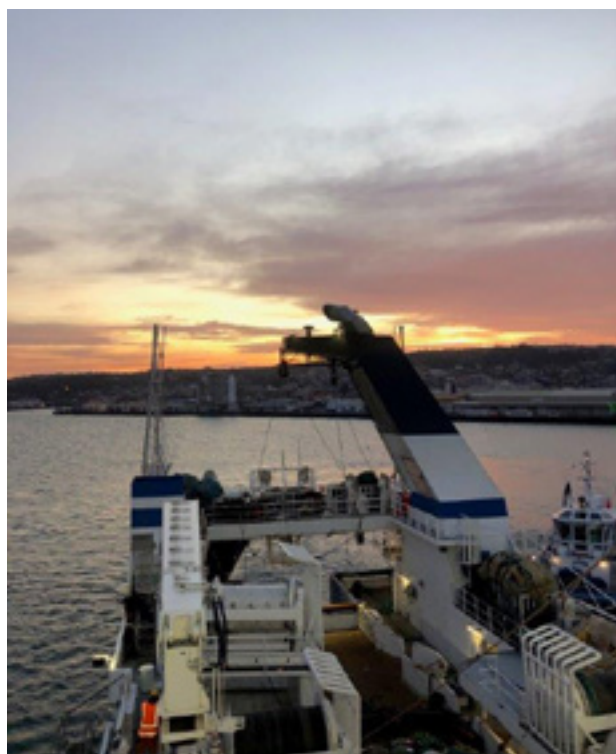
Ocean Bounty host Graeme Sinclair (left) speaks with Auckland Seafood School head chef Paulie Hooton during an episode looking at snapper stocks in the Hauraki Gulf.



Episode four, Sinclair visits the Westport Deepsea Fishing School where students are provided a hands-on introduction to life at sea.



Port Chalmers' FV Echo features in episode two discussing a collaborative approach to managing marine resources.



Sinclair's son James provides insight into life at sea as a new recruit onboard Sealord trawler Tokatu.

Inaugural awards showcase industry commitment to sustainability



The winners (left to right): Paul McIntyre and Aine O'Neill, New Zealand King Salmon; Fisheries Minister Hon Stuart Nash; Richard Wells, Resourcewise; MPI director-general Ray Smith; Fisheries New Zealand deputy director-general Dan Bolger, Dr Rosemary Hurst, NIWA; Malcolm Lawson representing CRA8 Rock Lobster Industry Association and Nate Smith, Gravity Fishing.

The big winner at this year's Seafood Sustainability Awards was a man who has spent almost 20 years working to protect seabirds and marine mammals in the commercial fishing industry.

Held for the first time in June, the awards were hosted by Fisheries Minister Stuart Nash who says the industry has committed and positive leaders.

An audience of 120 turned out to Parliament's grand hall, including commercial and recreational fishers, environmental NGOs, science providers and government agencies.

Five awards were presented.

Richard Wells of Resourcewise who has been heavily involved in reducing the risk to protected species since 2005 won both the Kaitiakitanga Award and the Supreme Sustainability Award.

CRA8 Rock Lobster Industry Association received the Operational Innovation Award – having developed fisheries and environmental management plans that have maintained high stocks abundance while maximising economic returns in the Fiordland Marine Area.

The Lee Fish Award for Market Innovation and Value-Added was won by New Zealand King Salmon. They were

recognised for world-leading waste minimisation, work on plastics and the development of their own environmental certification programme.

The Emerging Leader Award was taken away by Nate Smith of Gravity Fishing, a company that fishes to order, only sells whole fish and has 100 percent traceability and transparency.

And the Minister of Fisheries Award, which recognises those who have made a continuous outstanding contribution to the sustainability of the seafood sector was won by Rosemary Hurst of NIWA.

Seafood New Zealand Chief Executive, Jeremy Helson welcomed the Awards, saying he is delighted the Minister has put them on the calendar.

"There is some excellent work going on in the seafood sector both in minimising our environmental footprint and designing innovative new ways of fishing.

"It is great to see our people getting recognition for their efforts and we thank Minister Nash for making it possible."

Read a fuller feature on Richard Wells and his industry contributions in the December issue of the Seafood magazine.



Malcolm Lawson (left) and Jeremy Excell of CRA8, winners of the Operational Innovation Award.



The awards were well attended by industry and non-industry parties. From left; SNZ chief executive Dr Jeremy Helson, WWF chief executive Livia Esterhazy, FNZ deputy director-general Dan Bolger, director of The Nature Conservancy NZ, Jonathan Peacey and MPI director of fisheries management, Emma Taylor.



Fisheries Minister Stuart Nash presenting winner Dr Rosemary Hurst with the Minister of Fisheries Award.



Richard Wells, pictured here with his daughter Tamar (left) and wife Ruth, won both the Kaitiakitanga and Supreme Sustainability Award.



Nate Smith with his Emerging Leader Award.



The Lee Fish Award for Market Innovation and Value-Added was presented to Paul McIntyre and Aine O'Neill from New Zealand King Salmon.

"catch fish...not cables"

There are a number of international submarine cables which come ashore in the Auckland area. These cables supply international communications for both New Zealand and Australia to the rest of the world.

New Zealand is a very isolated nation and as such is extremely reliant upon global communication via submarine cables. Here in New Zealand over 98% of all international communication is carried via submarine fibre optic cables. These cables are a key component of New Zealand's infrastructure and play a significant role in our everyday lives, the general economy and future growth of New Zealand.

These cables are laid in three submarine cable corridors in the greater Auckland area where anchoring and fishing is prohibited under the Submarine Cables & Pipelines Protection Act.

These areas are:

- **Muriwai Beach** out to the 12 mile territorial limit where both anchoring and fishing is prohibited.
- **Scott Point to Island Bay** in the upper Waitemata Harbour where anchoring is prohibited.
- **Takapuna Beach** this runs from Takapuna Beach in the south to just north of the Hen & Chicken Island (opposite Taiharuru Head) where anchoring and fishing is prohibited.

Note: These protected areas are monitored by sea and air patrols.



Symbols Relating To Submarine Cables

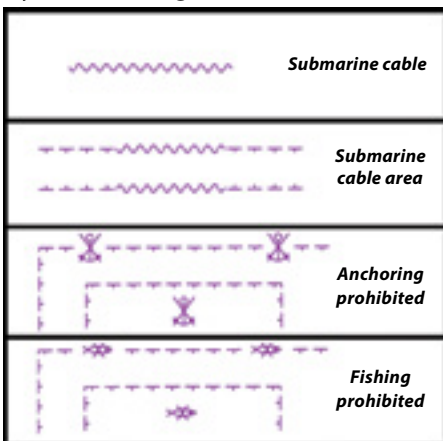


Figure 1.

These are some of the penalties

- A maximum fine of \$20,000 for a non-commercial vessel.
- A maximum fine of \$100,000 for a commercial vessel.
- A maximum fine of \$250,000 for damaging a submarine cable.

Additional to the fine for damage, the cable owners would inevitably pursue the recovery of costs associated with repairs, this could be up to \$100,000 plus a day; a typical repair can take up to two weeks.

Be Aware

These International submarine cables carry up to 10,000 volts to power the system repeaters along the cable.



What should you do?

- If you are going into any of these areas, be sure to check your marine charts and/or GPS plotter so you know the exact locations of the prohibited zones. The relevant charts are NZ53, NZ5322, NZ532, NZ522, NZ52, NZ42 and NZ43. The symbols used to mark the zones are detailed in Figure 1.
- If you suspect you have snagged your anchor or fishing gear on a submarine cable in one of these areas, don't try to free it. Note your position, abandon your gear, then call 0800 782 627.

What happens outside the prohibited areas?

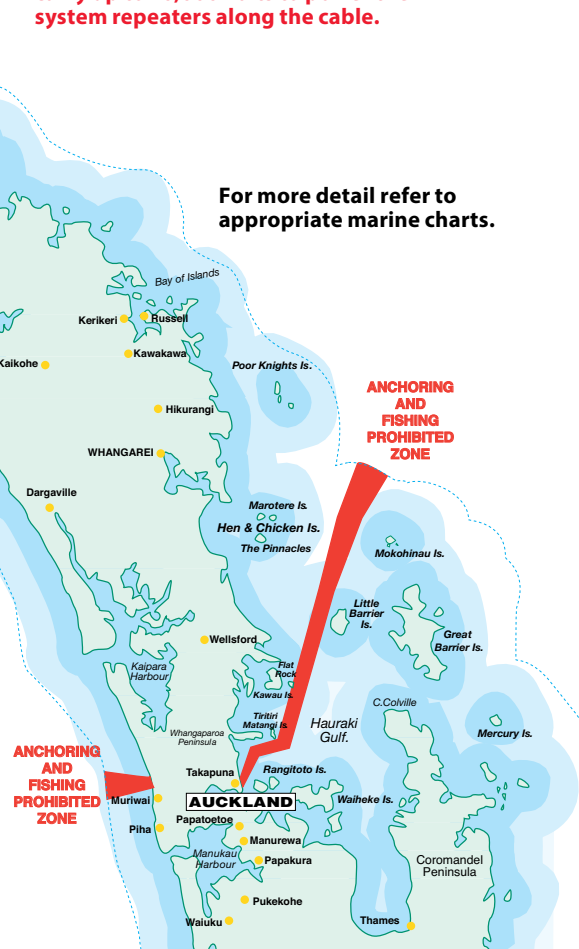
These cables are covered by the Submarine Cables and Pipelines Protection Act regardless of whether they are inside or outside a prohibited area. Beyond the confines of the "anchoring and fishing prohibited" areas, the cables are clearly marked on the appropriate marine charts.

Considering possible positioning inaccuracies and repaired cable section deviations, fishermen are advised to keep a minimum distance of one nautical mile from either side of charted cables.

Note this number:

For any queries regarding submarine cables call: **0800 782 627**

For more detail refer to appropriate marine charts.



Hurst's passion for fisheries science continues

Sam Fraser-Baxter



Dr Rosemary Hurst is NIWA's chief fisheries scientist.

The first time Rosemary Hurst ate raw fish was on a Japanese commercial fishing boat hundreds of kilometres off the east coast of New Zealand.

Hurst was five years into her career as a deepwater fisheries scientist. Her previous experience with raw fish was picking parasitic worms out of fillets. That was for her PhD – this was dinner.

"I was a bit nervous about eating this raw fish. I picked it up with chopsticks and held it up to the light to check for worms before I ate it. I'd never eaten raw fish before and rapidly fell in love with it."

Decades later, Hurst's love for raw fish continues – as does her passion for fisheries science.

She is now NIWA's chief scientist for fisheries, having enjoyed a long and celebrated career delivering the research that underpins the management of New Zealand's wild fisheries.

Hurst's earliest memory of the sea was swimming in freezing waters off the south coast of England. Born and raised in London, she cherished family trips to the coast to visit her grandparents.

"I used to love walking up and down the beach finding

little treasures. We didn't have easy access to the sea like we do in New Zealand. It was a special treat."

At nine years old, after occasional encounters with the ocean, Hurst found herself on it – literally. Trading the big smoke for the deep blue, her family packed their bags and spent six weeks aboard an ocean liner to start a new life in New Zealand. She's lived here ever since.

Despite her affinity with the ocean, Hurst admits she never foresaw a career in fisheries.

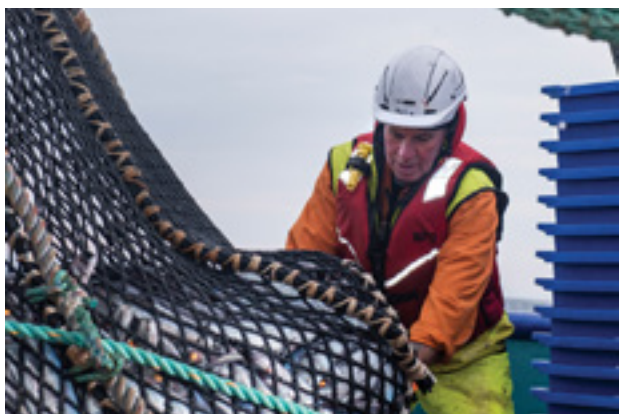
"I started my PhD working in terrestrial ecology but switched to working on the life cycle of marine parasites. I went out on research boats and I realised that I loved being at sea. It really got me hooked."

Hurst hasn't let go. Her science career charts the big changes in New Zealand's fisheries over the past four decades and she was recently honoured with a NIWA Lifetime Achievement Award for her contribution to both fisheries science and the development of a sustainable industry.

"Science is fundamental to sustainable fisheries management," Hurst said.

"It is essential for estimating potential yields and monitoring natural fluctuations and the impact of fishing over time."

In 1978, New Zealand declared its Exclusive Economic



Crew on board Kaharoa completing a hoki survey.

Zone. With the stroke of a pen the country's fisheries management responsibilities swept from the existing 12 nautical mile limit out to 200 nautical miles offshore.

At the time, New Zealand had virtually no vessels capable of harvesting deep water and a poor understanding of the fisheries themselves. The country was in serious need of fisheries expertise.

Hurst landed a job as a deepwater fisheries scientist with the Ministry of Agriculture and Fisheries, working on what was then New Zealand's fifth largest and most valuable fishery – barracouta.

As her work evolved to include several other deepwater species, she began survey work on large offshore commercial vessels – often chartered by the New Zealand fishing industry from Russia or Japan.

"One Japanese commercial trawler was the Akebono Maru 73 – that was an amazing experience. The skipper had fished in New Zealand waters for about a decade and had invaluable experience from the early days of our deepwater fisheries.

"He had his own opinions about the stock size of some of our key species and was always willing to share his knowledge and learn more from us. His early estimate of the long-term sustainability of our hoki fishery, about 150,000 tonnes, has proved remarkably accurate."

New Zealand's world leading Quota Management System (QMS) was introduced in 1986. Until then, fisheries were largely managed by restrictions on when, where and how fish could be taken. But from 1963 to 1973 the number of fishing boats in New Zealand more than doubled, sparking nationwide concern about overfishing.

The Government's response was a catch control system to incentivise sustainable harvest.

The prospect of the new QMS and the promise it held for long-term fisheries management excited Hurst.

"I thought it had a lot of potential, so I was very keen to be involved."

There were two key elements to the NZ QMS – the first major shift was putting a ceiling on the number of fish that could be taken by the commercial sector – the Total Allowable Commercial Catch (TACC).

The second was the introduction of Individual

Transferable Quotas – a right to a proportion of the TACC for a particular species in a particular area.

To determine exactly how many fish could be taken under the QMS, fisheries scientists needed to determine how many fish were in New Zealand waters.

Hurst was involved in many of the exploratory surveys attempting to estimate fish abundance. Using research trawl findings, along with years of commercial fishing data, she and her colleagues worked to establish early catch limits under the QMS.

"It was an exciting time because you really started to focus the research you were doing on what the management questions were."

At 30 – just five years into her fisheries career – Hurst was travelling around New Zealand visiting fishing communities to help explain the science behind the big changes the QMS brought.

It was not easy.

"When you're sitting in a room with fishermen visibly upset by the fact their ability to catch fish is going to be cut in half ... that was quite an eye opener for a young scientist. It really brought home the responsibility we had to get it right."

Fisheries management is political. Communities, individuals and businesses all have their own interests and viewpoints and balancing those while ensuring sustainable stocks is no easy task.

"There are no methods to work out the absolute biomass of fish.

"It's not like counting sheep in a paddock, or trees in a forest – we've had to develop robust scientific systems for estimating fish populations."

Hurst sees her work building the series of standardised trawl surveys covering inshore and middle-depth waters, now spanning nearly 30 years, as a career highlight. These focus on estimating the abundance and age structure of key commercial species as well as collecting data on all species landed.

"One of the things that I've always enjoyed about the science is that it's directly relevant to management. You also get a lot of valuable feedback on what you're



doing through the MPI stock assessment working group process.”

She also acknowledges that, even with the trawl surveys and the latest advances in population modelling and acoustic monitoring techniques, estimating fish abundance is still challenging, and she continues to look for improvements.

Unexplained changes in some fish populations have led to the need to investigate other components of the ecosystem.

She references the declines in hoki catches in the early 2000s. While fishing pressure and low recruitment were contributing factors, there were potentially other things going on – like prey abundance, water temperature or current variations.

This variability will be better understood by taking a broader ecosystem approach.

RV Tangaroa’s recent voyage to the Southern Ocean is attempting to do just this. The science is focused on the effects of climate variability on ecosystem function in the sub-Antarctic region, including effects on protected species and important fisheries, such as hoki.

Hurst said studies such as this, coupled with the time series of trawl surveys, could build on the QMS single-species approach to develop a wider ecosystem approach to management decisions.

“We now have the capability to take the next step, from Fishery Plans to Fishery Ecosystem Plans.

“Developing formal ecosystem plans would provide

more visibility on where we are making progress and the priority areas we need to address.”

To illustrate her point, Hurst and colleagues are currently developing a multi-species online fish portal. The portal visualises 27 years of NIWA trawl survey data on the Chatham Rise across more than 30 species. It already enables users to easily compare trends in species abundance, and a further suite of ecosystem indicators is on the way.

“It’s made all the data more accessible, so that you can look to join the dots to ask important questions and develop hypotheses on what might be causing changes.”

Asked if New Zealanders can be proud of the big changes in our fisheries management regime over the past 30 years, Hurst doesn’t hesitate.

“Yes – getting key target species catch under control is the definitely the first important step to sustainable fisheries and ecosystem management, and the QMS has achieved this. Many of the adverse effects of fishing are also being monitored and managed.

“But extending this success to a system that more explicitly incorporates both fishery and broader ecosystem objectives – that will take our fisheries management to the next level.”

Rosemary Hurst was recipient of the inaugural 2020 Minister of Fisheries Award, presented by the Minister of Fisheries Stuart Nash. The award represents outstanding dedication and innovation towards the sustainability of New Zealand’s seafood sector.



SALES 

24/7 SERVICE 

ANALYSIS + ADVICE 

PROJECT SOLUTIONS 

more air. more savings. and so much more.

KAESER Compressors provides special products for the aquaculture industry. Whatever your requirement you can be assured that with KAESER compressed air equipment you are investing in high quality - Made in Germany, energy efficient and Industrie 4.0-ready compressed air technology that delivers more air and more savings. But, it doesn't stop there. When you choose KAESER to be your compressed air partner you get so much more. From nationwide 24/7 service support to a range of bespoke solutions - our expert team are on-hand to ensure that your compressed air system operates at its optimum, reliably and efficiently throughout its lifetime. For more air, more savings and so much more, make KAESER Compressors your compressed air partner!

0800 447 820
nz.kaeser.com

 **KAESER**
 COMPRESSORS

The Sands Fish and Chip Shop

Tim Pankhurst



Partners Roy Gray and Bruce Maxfield open every day of the year.

The Sands Fish and Chip Shop opposite Nelson's Tahunanui Beach is an institution, having served up tasty meals for over 75 years.

But there would be few more dedicated than its current owners.

Roy Gray and Bruce Maxfield are partners in business and in life, living together in the apartment building above the shop.

They open every day of the year, for as long as there are customers, and on Christmas Day they have a party for the public, complete with "free" beer.

They have a wide range of beers, which are served free with meals on the day as long as a suitable donation is made to a designated charity such as Coastguard or Westpac Rescue Helicopter.

"We love it," says Gray. "We've got a lifestyle and I love the camaraderie. No matter what business you're in, if you can get your customer to laugh or a smile you've got the battle won."

Having great products helps too.

Unusually, orange roughy is a staple house fish, a relative bargain at \$4.50, and blue cod and snapper are usually on the menu too.

The fish is sourced largely from Nelson-based Solander, with blue cod from the Chathams.

Portions are generous, so much so they attracted the attention of TVNZ's Seven Sharp.

The average portion of chips is around 325grams. At Sands it is double that.

The fillets are big too – around 170 grams.

Homemade salt and pepper calamari and chicken nuggets along with Bluff oysters are big sellers too.

The shop's fame has spread far and wide.

It was recently made an international Travellers' Choice winner, placing it in the top 10 percent of restaurants worldwide, based on reviews, ratings and saves.

Trip Advisor has awarded it a certificate of excellence four years in a row and a fifth citation will elevate it to the influential site's hall of fame.

Last year two American couples ate at the shop's outdoor tables before walking the Abel Tasman track.

They were so impressed they returned after the walk and ordered more fish and chips before returning to Colorado that day.

Gray, ever mindful of international endorsement, asked if they had heard of Trip Advisor.

Indeed, they had. One of the men pulled out a card, introducing himself as Trip Advisor's founder and chief executive.

Maxfield had another serendipitous experience while on



The Sands in its early days, the 1940s.

holiday in Copenhagen, queuing for a train ticket.

In a sea of Scandinavians, he became conscious of two women speaking English in front of him.

One said to the other "when you go to Nelson you must have fish and chips from the Sands".

When Maxfield introduced himself, he was not sure who was more amazed.

"My chippie boys," she called them.

And a woman named Patsy phoned through a long-distance order – from Australia.

Driving in Maryborough in Queensland she asked Google for connection to best fish and chips and placed an order.

It was only when calling back for directions that it was realised she was in another country.

Gray, 60, and Maxfield, 74, met in Auckland where both were working – as a bar manager in a gay hotel and as an in-home curtain consultant respectively – and decided to buy a fish and chip business together.

That was in 2012. The Sands was for sale, they checked it out and bought it the next day.

Gray, a dinky-di Aussie from Tamworth in country NSW, likes to have sport with customers.

On the day of a Bledisloe test he decked the shop in green and gold, with a single chair in one corner reserved for All Black fans.

Neighbouring shop owners are never charged for meals, so the coffees and haircuts are free.

Gray has a patchwork pattern in his close-cropped hair,

while Maxfield is stylishly shaved at the side leading to what looks suspiciously like a mullet.

When an attractive young woman hairdresser calls in for hot chips, Gray says she is "a sex symbol for the blind society". She makes a throat cutting gesture in return. Political correctness is not on the menu.

They have an online site, Eats365, for click'n'collect orders and did a roaring trade when Covid lockdown restrictions were eased.

The Nelson Mail, noting a queue at nearby KFC while nobody was waiting at Sands, urged readers to support local businesses.

"They meant well," Gray says, "but the funny thing was The Sands was doing four times its normal business by phone."

The lockdown also provided an opportunity to gut and clean the shop, which looks spotless.

Gray's only outside interest is tenpin bowling, which he is good at, coming second of 160 bowlers in a Christchurch tournament.

"I'm too old," Maxfield laughs.

Besides, what could be better than serving up fish 'n' chips to a grateful clientele?



The shop today – still serving fish and chips 75 years after first opening its doors.

MARINE ENGINEERING





SHIP REPAIRS

BOAT BUILDING

DRY DOCKING

ENGINE REPAIRS

"Proven Abilities" Worldwide

Stark Bros is fully conversant with all aspects of the ship repair industry, from afloat maintenance to full dry docking and survey work, and the skills associated with a strong boatbuilding foundation. With the combination of specialist personnel, facilities, equipment, knowledge and experience of ships and the marine industry, Stark Bros Ltd is able to provide a high level of service and expertise at competitive prices.

Ph: +64 3 328 8550
 P.O. Box 144, Lyttelton, New Zealand
www.starkbros.co.nz

Don't let our enemies win the war

Doug Saunders-Loder

Over the past six months, at a time when the Prime Minister and Government promote staying safe and being kind to each other, the likes of LegaSea, Forest & Bird, Greenpeace and other environmental NGOs just keep 'kneeing us in the nuts'.

Be under no illusion; this is not about them being better at protecting the environment or giving any consideration to your families or livelihoods. It is the exact opposite.



Doug Saunders-Loder is president of the NZ Federation of Commercial Fishermen.

They promote an entirely anti commercial-fishing agenda. We are clearly in their sights and their attacks based on mischief and misinformation are designed to drive you out of business. I have attended hundreds of forums over the years with environmentalists that have never ever provided any solution, just a view that you should stop fishing.

Based on how hard we work to protect your interests, engaging with FNZ and other government agencies it is devastating to have to face many of the recent outcomes. These outcomes have affected you directly and you have already had to face being excluded from fisheries, from areas, from the use of certain methods and in some cases from continuing

"The 'haters' have had some success with their battle....my challenge to you is to not let them win the war!"

– Doug Saunders-Loder

to operate your legitimate and sustainable fishing businesses. The 'haters' have had some success with their battle....my challenge to you is to not let them win the war!

It's difficult I know but try to lift yourselves above the negative rhetoric. Forget the keyboard warriors and concentrate on the positive aspects you can bring. Social media is a scourge on society. It allows uninformed people to provide uninformed opinions and whilst our democratic society allows us all to speak freely, it also provides an opportunity for these idiots to border on slander and defamation.

Don't allow yourselves to fall into the trap of responding to this negativity. At times like this we need to unite and support each other. We need to have each other's back and it is essential to promote all the positives we can.

Contrary to mischievous claims your inshore

fisheries are in outstanding condition. This is not some aspirational hope, it is a fact! It is supported by science and Catch Per Unit Effort (CPUE). We have just started the new fishing year and fish stocks and your fish-plans are full. TACC setting processes are improving all the time and FNZ need to be congratulated for recognising the need for more flexible adjustments. Many TACCs have recently been adjusted upwards and prioritising where resources are placed for continued improvement is real.

Contrary to mischievous claims you kill 'thousands less' seabirds than you did a decade ago. This is not because you ignore the need to protect

"Don't allow yourselves to fall into the trap of responding to this negativity. At times like this we need to unite and support each other."

– Doug Saunders-Loder

seabirds....it is the absolute opposite. Your efforts in formalising Seabird Management Plans, introducing appropriate mitigation measures and reporting any interactions dead or alive are improving every day. We should not be complacent in this respect and need to maintain momentum. It is in our best interests.

Contrary to mischievous claims you have not killed a Maui Dolphin since 2002 and that was a questionable claim at the time.

Sadly, the coalition means that at a political level our politicians have to make compromises. Compromises that some of them don't like making either. Compromises that affect your businesses but also the livelihoods of everyday New Zealanders.

It's no consolation but this Government has run

roughshod over white-baiters, tahr hunters and in the most recent power-play over recreational set-netters that have neither seen, let alone caught a Hector's dolphin. They have placed immense pressure on NZ farmers with little consultation, by imposing nitrogen loadings, impractical river setbacks, water management and in the last months they have even divided the country up identifying 'slope plans' for farmers that determine what they might be allowed to do based on the slope of their land! Things many of them have done for generations.

Put simply, we are not in this on our own. Yes, we deal specifically with what affects us the most but we need to promote the positives in our Industry and unite in our defence. Perhaps we need to be uniting with other Primary producers and pushing back at this unreasonable environmental expectation. We all know and act on what affects our environment. Our Fisheries Act provides for it so for politicians, particularly power-crazy Green Ministers, perhaps they should rely on that instead of their personal ideologies.

It is with sadness that I reflect on the passing of a key Industry player in the past months. Peter Stevens is no stranger to most of you and was a driving force behind the Federation for many years, particularly in the early days of the QMS. He was a ruthless leader and great negotiator. He would turn in his grave to know that the Government of today choose to operate behind closed doors and that they impose such pain on our hard-working Industry. He insisted on having the ear of Ministers in his day and was not afraid to hold them to account. A strong Industry leader that will be sadly missed. Our condolences and deep sympathy are passed to his family.

I know it's been difficult guys but try to maintain a 'glass half full' philosophy and embrace the positive. In the coming weeks you have the opportunity of making a difference.

The General Election is on October 17. Make sure you get to that polling booth and vote for change.



NEW FROM ECP! CERTIFIED HOME COMPOSTABLE SEAFOOD LINERS

With the focus for most industries now on sustainability ECP is now able to supply compostable liners for the crates used in the fishing industry.

ECP is stocking a range of sizes but bespoke sizes are available on request.



visit ecpcompostables.co.nz

Fisher Wellbeing programme launches in wake of Covid

As Covid-19 continues to cause disruption across the globe, the New Zealand seafood sector has shown an impressive capacity to adapt to the changes brought about by the pandemic. From finding innovative ways to respond to changing markets and restrictions on working conditions to providing hard-hit communities with kaimoana, the sector has played an important role in the nation's widely-lauded response.

The Government has acknowledged that challenges posed by the pandemic will be ongoing for some time, and Fisheries Minister Stuart Nash recently announced that \$4.6 million is available to fund the establishment of a new seafood industry-led support network. This is part of a \$20.2 million Budget 2020 allocation to support rural and fishing communities.

Prior to the pandemic, Fisheries New Zealand had already made a commitment to understand and respond to the wellbeing needs of the seafood sector through a programme of work initiated by our strategic engagement lead, Marie Fitzpatrick.

"The Covid crisis brought a new, wholly unexpected, angle to this programme," says Fitzpatrick. "This budget allocation means we will be able to work with industry and set something in place that will aid in Covid recovery in the short to medium-term, especially for ACE fishers, but which will also persist beyond the pandemic, as individuals, businesses and communities look to build adaptability and resilience against future challenges."

Fisheries New Zealand's new Fisher Wellbeing team has been able to draw on a wealth of expertise across MPI in the early planning phase of the network and has been looking to the farming sector's Rural Support Trusts as an example. Implementing this model in the seafood sector could see a number of trained volunteers operating within fishing communities around the country, with a central body in a coordinating role.

However, as the particular needs of the seafood sector are not directly comparable to other primary industries, the wellbeing team is working at speed to convene a working group of fishers, Treaty partners, industry representatives and Fisheries New Zealand staff who will consider what this support network should look like and how it could operate most effectively.

"The most important aspect of this support network is that it will be independent – ensuring it is owned by fishers and aquaculture farmers, supporting their own people and communities. This means it's essential they are involved from the inception of this project," explains Wellbeing Programme Manager Freya Hjørvarsdóttir, who grew up in an Icelandic fishing family and brings several years of fisheries management experience to her new role. "While



Fisheries New Zealand expects to advise and facilitate the process of standing up the network, we ultimately want to transition it to be fisher-led."

The type of support offered through the network could include training, mentorship, community events, counselling, financial advice and help with accessing innovation advice and grants. We expect that the kinds of support needed will vary over time and from region to region. The funding will ensure the network is well resourced to adapt to these changing needs quickly and efficiently.

"We want to make it possible for individuals, their whanau and communities across New Zealand's seafood sector to decide for themselves what effective support looks like and enable them to access it easily," says Freya. "And it's very important to note that by 'fishers', we mean everyone in the seafood sector – it's purely for ease of explanation that we currently refer to a 'fisher support network'. Like everything else, we expect the name to be a subject of robust discussion!"

Fisheries New Zealand also acknowledges that the establishment of a support network in response to the Covid crisis does not address all industry concerns.

"This network is just one part of the wider wellbeing programme, and we are also looking at our role as a regulator and how human centred design in our regulatory settings can improve wellbeing outcomes for those in the industry," explains Director of Fisheries Management, Emma Taylor, who oversees the Wellbeing Programme. "Over time, the support network will contribute to this process by providing another robust avenue for individual fishers to make their voices heard by the policy makers and Ministers."

Preliminary discussions with fishers, iwi and industry representatives shows that there is broad agreement on the need for a support network, and a commitment to collectively roll up sleeves and make it happen. The Wellbeing team is looking at ways to communicate progress more widely in the coming weeks.

New technology to detect algal blooms

We could be in for another 'epic marine heatwave' this summer, a NIWA scientist speculated in the Dominion Post recently. And that raises fears of more algal blooms.

Sanford food safety manager David Jones says it will be interesting, in that case, to see what happens in winter 2021. Oceans take a long time to warm and cool.

"The industry was caught short in 2018 by the speed and spread of a paralytic shellfish poison (PSP) algal bloom," Jones says. "Large areas of the Marlborough Sounds were closed for several months."

Since the 90s, algal blooms have regularly disrupted shellfish production, but never a PSP-producing bloom in the winter months prior to 2018.

Jones is heading the industry advisory group convened by the NZ Food Safety Science & Research Centre. Seafood industry members are excited by the possibility of a new device which could be stationed in the water to detect and count the different microalgae present and help make critical decisions about when to harvest.

The current monitoring programme, which involves taking water samples for microalgae analysis, and flesh-testing for toxins, typically on a weekly basis, is labour-intensive and limited. Microalgae can multiply so quickly that the one-week gap between water and flesh-testing can be too long and result in costly re-testing or destruction of product. Instead of sending out boats with staff dedicated to sampling, decision-makers like Jones could monitor microalgae, both good and bad, in real time on laptop or phone.

This technology already exists. Its performance has been assessed by Cawthron's Dr Lincoln Mackenzie. There are challenges around teaching the software to recognise New Zealand's particular strains of microalgae, and where and how to deploy the samplers. As aquaculture and finfish farming move further



Catherine McLeod

offshore, such detectors would be even more useful and cost-saving.

The NZFSSRC was set up in 2016 and operates on a membership model. The main benefit is access to 40 percent government research funding for projects, and for expert design and

delivery of research projects. NZ King Salmon, Sanford, Kono and Seafood NZ, all joined up in the last year. Nelson-based director Dr Catherine McLeod formerly worked for MPI and was a consultant to the seafood industry. Cawthron Institute scientist Dr Tim



David Jones

Harwood is deputy director. Harwood also manages the government's well-established Seafood Safety research programme, which does more long-term, fundamental research. The NZFSSRC focusses on 'here and now' food safety issues for all members.

Centre scientists are also helping food industries get to grips with the application of whole genome sequencing technology, which promises major benefits. It can be used to pin down the precise source and location of microbiological hazards and tell if a strain is resistant to certain types of sanitiser, or likely to form biofilms. So, instead of having to take the whole factory apart, a problem area or piece of equipment can be isolated. Sanford is now routinely using the technology, which has already proved its worth in the dairy industry.

"It's incredibly powerful," Jones says.

People can see its value in tracing Covid-19 infection routes.

Jones says the centre "came into its own" with the advent of Covid-19. Recognising the huge risk to food industries on which New Zealand is now so dependent, it immediately began assessing the risk of infection from food, food packaging and food processing facilities, going through the mass of scientific evidence coming out of Europe and Asia in the early days of the pandemic. This assured the industry and consumers that there was no evidence the virus could be caught from food or drink. The centre also researched and issued specific guidance on the use of PPE in the food industry.

"Our scientists are second to none, and want to provide practical help," says McLeod. "Use us."

Column courtesy of the New Zealand Food Safety Science and Research Centre.

Industry movers and shakers shine in 2020 Seafood Stars Awards



Emily Pope

As the reality of Covid-19 set in, New Zealand's seafood workers stepped up, supporting communities and supplying nutritious, safe seafood to Kiwis.

It was a timely reminder of those who go above and beyond – the industry stalwarts, the innovators, the big-thinkers and the pragmatists.

Although this year's Seafood Conference was cancelled, we celebrate not just the Covid-champions, but the men, women and organisations who continue to make significant contributions to New Zealand's seafood industry.

The Seafood Stars Awards, now in their fifth year, are presented to those who showcase excellence in one of the following categories: Future Development Innovation, Longstanding Service and Young Achiever.

A fourth category, the Covid-19 Response Award, was generated in recognition of the outstanding leadership and initiatives observed during the pandemic.

New Zealand King Salmon (NZKS) was a standout, demonstrating outstanding commitment to employee health and safety during Covid-19.

Winners Grant Rosewarne and his senior leadership team (Andrew Clark, Jemma McCowan, Graeme Tregidga, Alan Cook and Shaun Young), met each morning via video conference to ensure NZKS was meeting government health and safety requirements and that staff were supported during lockdown. Joe de Roo, NZKS's engineering project supervisor, ensured employees met social distancing requirements under alert level four by designing and constructing screens to separate processing stations. Project manager Cameron Johnston also stepped up, establishing a Covid-19 response team. Their collaborative efforts meant 480 NZKS staff maintained job security.

Sealord, another winner of the award, shone in their community outreach – contributing more than eight tonnes of low-cost seafood product to over 30 iwi and regional Maori organisations to feed whanau in need during lockdown. Several health and wellbeing initiatives were also developed, including a drive-through temperature check for staff and visitors entering the site and the installation of PVC screens.

Jason and Dave Baker from Saavid Fishing became the poster boys of the fishing industry during lockdown. This father and son duo operating out of Picton have been at the forefront of developing the domestic market for

fresh and live paua. When Covid-19 struck, the Bakers identified and implemented all necessary health and safety changes, wearing full PPE (Personal Protection Equipment) and designing social distancing protocols for in the water, on the boat and at the LFR (Licensed Fish Receiver) stage. Their efforts also garnered them the Covid-19 Response Award.

Cathy Webb, Seafood Standards manager at Seafood New Zealand, was the final winner of the award and a worthy recipient. Described as a loyal, hard-working member of the industry, Webb was integral in developing operating guidelines for the seafood sector throughout the pandemic. She worked closely with government officials, advocating industry needs and ensuring operations could continue in a safe working environment. Her engagement was pivotal in informing operators of the latest air freight, food safety and processing requirements as alert levels shifted, and she worked tirelessly to ensure communications were received as they happened.

Adrian King was the sole recipient of the Future Development Innovation Award.

Senior project manager at New Zealand King Salmon, King developed a sustainable solution for feeding multiple salmon farms from a single location using a communications network. The outcome has meant less boat movement in the Marlborough Sounds and better connectivity to the internet.

Steve Bishop, Alistair Jerrett and Philip Clow were recognised as winners of this year's Longstanding Service Award.

Bishop's 36-year career in the seafood industry began as assistant chief fishery officer at Ministry of Fisheries. He held an integral role in developing compliance regimes and processes for introducing the QMS in 1986 and continued to help refine the system through his various roles over the years. He joined Sealord in 1996 as risk and compliance manager, then Independent Fisheries in 2003 as fleet operations manager. A respected member of the industry, Bishop has demonstrated a true passion for his work and has exuded a tremendous amount of knowledge, dedication and professionalism across his career.

Plant & Food scientist Alistair Jerrett's 35-years of research experience also earned him the Longstanding Service title. Jerrett's vision for the seafood industry

to have a reputation of producing ethically harvested, quality fish has been the driving force of his career. His work has delivered practical science and technology solutions enabling industry to operate sustainably, ethically and profitably. Notably, Jerrett was instrumental in the development of Precision Seafood Harvesting – a world-first in fishing technology.

The final Longstanding Service recipient Philp Clow has devoted much of his working life to the seafood industry, investing his time in developing young fishers' skills and careers. He has supported youth into employment, provided legal assistance to fishers and has been president of the Whitianga/Coromandel Peninsula Commercial Fishermen's Association for more than 20 years. He continues to be involved in several working groups focused on improving the sector, is a strong supporter of the Federation of Commercial Fishermen and is always pushing for change at the betterment of those in his "patch".

Three promising young achievers completed the line-up of 2020 winners.

Logan Nutsford joined the seafood industry in 2019 after completing his engineering degree. In less than a year, Nutsford has significantly advanced Sanford's

understanding of technologies and led the development of a mussel sampling and sourcing prototype that improves factory yield and product quality.

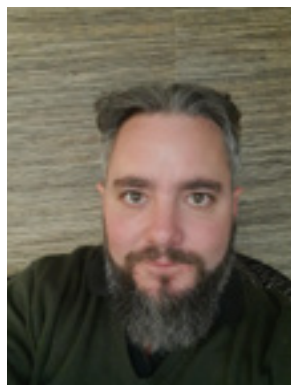
Another Young Achiever Award went to Nicholas Langridge of Talley's. Langridge left school at 16 to complete a building apprenticeship. Soon after, he joined Talley's freight department, running product between Nelson and Motueka, until he was later accepted into the group's cadetship. He spent six months in local market sales in Motueka, then two months at the company's Timaru site, building a bigger picture of "vessel to customer" production. He is now working as Talley's Westport wet fish site manager, where his commitment and passion is described as making him an ideal fit for the role.

The invaluable contributions of Te Ohu Kaimoana's policy analyst Tamar Wells earmarked her as the final winner of the Young Achiever Award. A strong advocate for Maori, Tamar continues to work hard to protect their interests, whilst collaborating with stakeholders. Wells was actively involved in developing the East Coast tarakihi rebuild plan, engaged on the Maui and Hector's dolphin Threat Management Plan and is a member of the Seabird Advisory Group.

Congratulations to our winners.



The NZKS leadership team. Graeme Tregidga (left), Jemma McCowan, Alan Cook, Shaun Young, Grant Rosewarne and Andrew Clark (right).



NZKS project manager Cameron Johnston.



NZKS senior project manager Adrian King.



NZKS engineering project supervisor Joe de Roo.



Sealord chief operating officer Doug Paulin (right) with one of the company's Covid-19 drive through testing stations pictured behind.

SEAFOOD STARS



Jason (left) and Dave Baker of Saavid Fishing Ltd.



Independent Fisheries fleet manager Stephen Bishop.



Plant & Food scientist Alistair Jerrett.



Sanford's mechatronics intern Logan Nutsford.



Seafood Standards manager Cathy Webb.



President of the Whitianga/Coromandel Peninsula Commercial Fishermen's Association, Philip Clow.



Talley's Westport wet fish site manager Nicholas Langridge.



Te Ohu Kaimoana policy analyst Tamar Wells.

Harbour Fish's homemade fish stock



Ingredients

Fish frames, one large or a few small (fresh or frozen)
 ¼ cup white wine
 ½ onion, chunky dice
 1 carrot, peeled and diced
 2 sticks of celery, chunky dice
 A few fennel fronds or ½ tsp fennel seeds
 3 sprigs thyme

6 sprigs parsley
 1 small garlic clove, cut in half
 1 – 2 tsp flaky sea salt
 4 peppercorns
 1 lemon, cut in half
 2 bay Leaves

Method

Place all ingredients into a large pot. Cover the frames and other ingredients with cold

water. Place on a medium heat and bring to the boil, without a lid on. Once stock is at a boil, reduce the heat and simmer for 20 minutes. While simmering, you can use a ladle to take the protein off the top. Once it has simmered for 20 minutes, remove from the heat, leave to

cool a little and strain the liquid through a fine sieve and into a vessel. Keep the lemon aside. Once the stock has cooled more, squeeze juice from the lemon into the liquid and stir through. The stock is done. Keep it in the fridge for a few days or pop it in the freezer to use at a later date.

Economic Review

of the seafood industry to June 2020

Welcome to the latest update on the economic performance of New Zealand seafood. This edition provides provisional data for the year-to-date to June 2020.

KEY RESULTS FOR THE PERIOD:

- The global COVID-19 pandemic has impacted seafood exports, with the first six months of 2020, down 9 percent in volume and 15.5 percent in value compared with 2019
- Seafood export value for the first six months of 2020 was \$862 million compared with \$1020 million for the same period in 2019
- There were significant drops in export value to our top trading partners China, Australia and the United States
- Rock Lobster export value was down by 41 percent and squid by 38 percent compared with 2019 exports
- Greenshell™ Mussels remained as the top export earner, with a slight increase in value despite a small drop in volume.

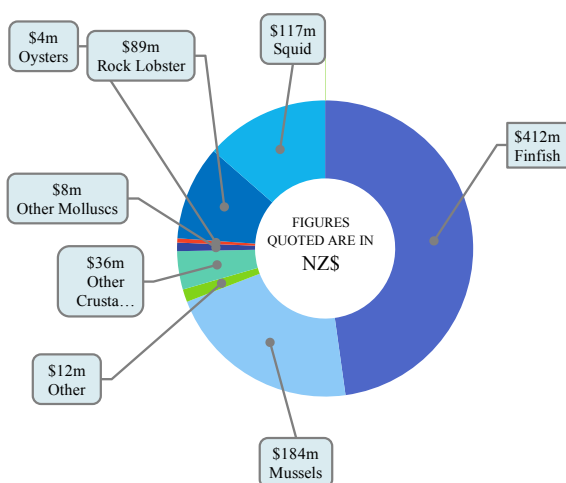
EXPORT STATISTICS

EXPORT NZ\$FOB*

All figures in this section are based on export data provided by Statistics New Zealand and analysed by Seafood New Zealand for the year to June 2020.

Seafood exports to the end of June 2020 totalled NZ\$862 mil with 128,470 tonnes exported.

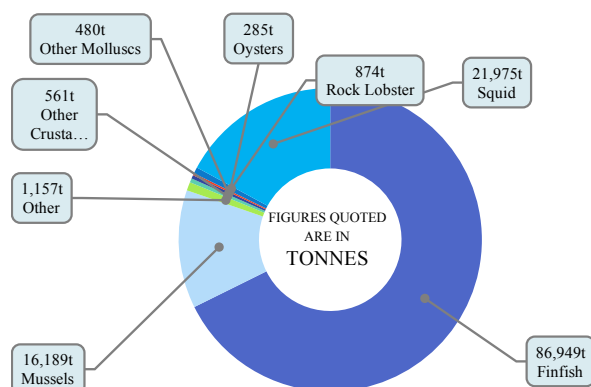
Export value (YTD to June 2020) = NZ\$862 mil



EXPORT TONNES

Finfish species accounts for 48 percent of export volume. However a drop in volume was seen across most species due to COVID-19, with a few exceptions, including export volume increases in jack mackerel, albacore tuna and southern blue whiting.

Export volume (YTD to June 2020) = 128,470 tonnes



Source: Export data, Statistics New Zealand, Seafood New Zealand.

FOB = Free on board. The value of export goods, including raw material, processing, packaging, storage and transportation up to the point prior to loading on board ship.

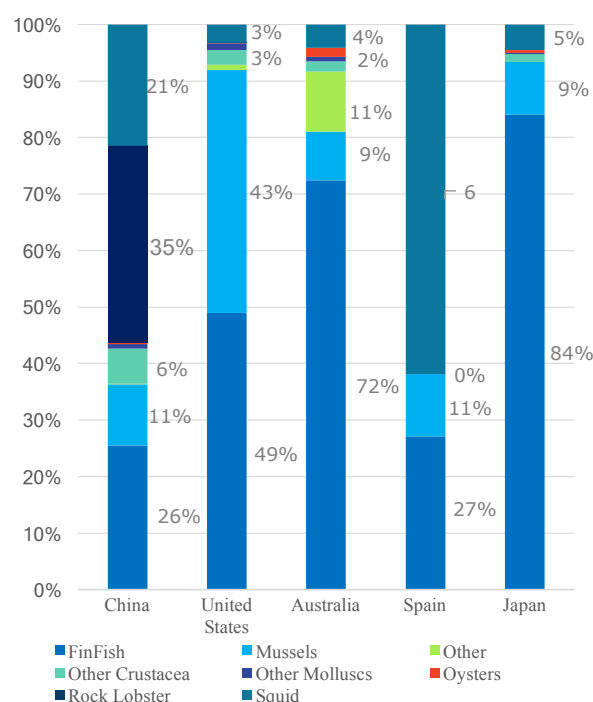
EXPORTS BY COUNTRY

China, United States and Australia are still in the top three positions, however all have seen a decrease in export value. Exports to Vietnam doubled during the reporting period, with Spain, South Korea and Canada also seeing increases.

Top 10 Export Countries by Value (YTD to June 2020)

	Country	Value	Previous Year Value	% Change
1	China, Peoples Republic Of	\$262m	\$369m	-29
2	United States	\$120m	\$144m	-17
3	Australia	\$96m	\$112m	-14
4	Spain	\$44m	\$35m	26
5	Japan	\$39m	\$45m	-13
6	South Korea	\$35m	\$28m	25
7	Thailand	\$30m	\$33m	-9
8	Vietnam	\$22m	\$11m	100
9	Canada	\$22m	\$18m	22
10	Hong Kong	\$18m	\$25m	-28

Composition of Exports to Top 5 Trading Partners (YTD to June 2020)



EXPORTS BY SPECIES

The export value of rock lobster decreased by 41 percent, for the six months to June 2020. Squid and ling have also seen significant decreases. Albacore tuna, jack mackerel and barracouta all saw significant increases.

TOP 10 EXPORT VALUES (NZ\$)

	Species	Value	Previous Year Value	% Change
	Mussels	\$184m	\$183m	1
	Squid	\$117m	\$188m	-38
	Rock Lobster	\$89m	\$151m	-41
	Hoki	\$57m	\$64m	-11
	Mackerel, Jack	\$39m	\$29m	34
	Salmon, Pacific	\$34m	\$42m	-19
	Tuna, Albacore	\$28m	\$15m	87
	Orange Roughy	\$27m	\$26m	4
	Ling	\$25m	\$34m	-26
	Barracouta	\$20m	\$14m	43

Source: Export data, Statistics NZ.

EXPORTS OF MAIN COMMODITIES

Exports of the main commodities for the six months ended June 2020 saw a 1 percent increase in export value on the same period for 2019, with fish, crustaceans and molluscs decreasing by 17 percent.

	NZ EXPORTS OF MAIN COMMODITIES (NZ\$)	Current Year	Previous Year	% Change
	Milk powder, butter, and cheese	8,687m	7,858m	11
	Meat and edible offal	4,863m	4,592m	6
	Fruit	2,358m	2,072m	14
	Logs, wood, and wood articles	1,973m	2,663m	-26
	Wine	937m	876m	7
	Fish, crustaceans, and molluscs	785m	947m	-17
	Mechanical machinery and equipment	747m	880m	-15
	Total Exports	31,146m	30,840m	1

Source: Overseas merchandise trade, Statistics NZ.

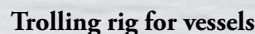
*Fish, crustaceans, and molluscs (excludes fishmeal & processed oils, powdered products)



Talley's wish to welcome all Albacore Tuna fishermen to the South Island fishery where we operate the only complete chain of tuna receiving depots.

• Picton	Alf Reid		027 450 0501
• Nelson	Larry Moses	03-548 0109	021 438 387
• Motueka	Sarah Bradley	03-528 2800	021 284 2400
• Tarakohe	Alf Reid		027 4500 501
• Westport	Nic Langridge	03-788 9175	021 353 912
• Greymouth	Geoff Drake	03-769 9070	021 743 074
• All other Ports	Geoff Drake	03-769 9070	021 743 074

- Speedy discharge
- Cleaning and sanitisation of fish holds
- Diesel at very competitive prices
- Use of our slurry bins
- Speedy payment
- Ice supplied



Should you have a vessel that needs a skipper or, be a skipper who needs a vessel, please don't hesitate to call us. We welcome all enquiries.

Telephone: 03 528 2823 - Cell: 021 527 472



MARITIME INTERNATIONAL

LIMITED

Godfrey Wilson
7 Kanpur Road, Wellington
Mobile +64 27 443 4831
godfrey@maritime.co.nz

 <p>#5184 IMAGE FISHING/PAX L16.76m x B4.9m x D1.2m Doosan 840hp new 2018 22 knots. Nilgata gearbox Fuel 3,000 litres Water 1,000 litres 8 berths. Diesel stove. Fridge Hot water. Toilet/Shower Whizz wheel, 4x jig machine tuna poles. New electronics VESSEL LIKE NEW PRESENTATION \$460,000</p>	 <p>#5190 DANISH SEINER L19.26 x B4.5m x D3m Gardner BL3 150hp 3,500 hours since rebuild Fuel 4,000 litres, 10 tonnes ice hold Good accommodation LPG stove, fridge, Hotwater Shower/toilet. Tuna poles Danish seine gear NEW SURVEY 2020 \$165,000</p>	 <p>#5189 CONQUEST MAXI VIS Large galley main deck level Large comfortable saloon GRP LOA 17.81m x B5.2m Doosan 1000 hp new 2019 Genset. Fish hold 5 tonnes. Long line. Pot hauler. Hiab. 2 x dble cabins + 4 bths fwd. Separate shower & 2x toilet. Modern electronics. WAASP. FULL REPAINT 2019 \$655,000</p>	 <p>#5201 VIRTUALLY NEW Only 125 hours since new. L14.6m x B5.00m x D1.98m Cummins C series, de-rated. 255hp 125 hours since new ZF 3:1 gearbox 2 Kubota 12.5 kVA gensets Fuel 8000L, Water 2200L Fish hold 19 cbm 5 berths. Skippers cabin Good Galley & electronics AUS\$495,000</p>
--	---	---	---

OVER 150 BOATS LISTED - ALL PRICES PLUS GST UNLESS STATED

www.maritime.co.nz





OPERATIONAL WORKPLACE SAFETY

- Training, safety videos & E-learning
- Critical risk assessments
- Full system creation
- At sea services
- MOSS audit support
- Machine safety / guarding assessments
- COVID-19 Policies and Procedures support

TALK TO US ABOUT YOUR MOSS AND HEALTH & SAFETY NEEDS

Darren Guard - Managing Director
 027 436 2396 | darren@guardsafety.co.nz
www.guardsafety.co.nz

WANTED

Furuno
Coloured Video Sounder

Model number FCV-221


Please call
027 353 5661



www.splashzone.co.nz

All enquiries to Richard or Jean
fish.man@extra.co.nz or 027 230-2333

BNS	CRA	HPB	KIN
TRU	ACE & SHARES		BCO
TRE	Inshore Parcels		WAR
TAR	North Island		GUR
SNA	WANTED		LIN
PAU	MOK	SCH	SPO



AOTEAROA QUOTA BROKERS

QUOTA TRADER + QUOTA MARKET REPORTS + QUOTA MANAGEMENT + QUOTA CONSULTANCY + AQUACULTURE

<h3 style="color: red; text-align: center;">ACE FOR LEASE</h3> <table style="width: 100%;"> <tr> <td style="vertical-align: top;"> BCO1, BCO8 EMA1, EMA7 FLA1, FLA2, FLA3, FLA7 FRO7 GAR3, GAR8 GMU1 JDO3 KAH1, KAH2, KAH8 OEO1 PAD1, PAD2, PAD3, PAD5, PAD7, PAD8, PAD9 POR3 RCO3, RCO7 </td> <td style="vertical-align: top;"> RIB8 SCH1, SCH2, SCH7, SCH8 SPD1, SPD3, SPD4, SPD5, SPD8 SPE2 SPO1, SPO8 SQU1J, SQU1T, SQU6T STN1 TRE7 WWA3, WWA4, WWA5B YEM1, YEM9 YFN1 </td> </tr> </table>	BCO1, BCO8 EMA1, EMA7 FLA1, FLA2, FLA3, FLA7 FRO7 GAR3, GAR8 GMU1 JDO3 KAH1, KAH2, KAH8 OEO1 PAD1, PAD2, PAD3, PAD5, PAD7, PAD8, PAD9 POR3 RCO3, RCO7	RIB8 SCH1, SCH2, SCH7, SCH8 SPD1, SPD3, SPD4, SPD5, SPD8 SPE2 SPO1, SPO8 SQU1J, SQU1T, SQU6T STN1 TRE7 WWA3, WWA4, WWA5B YEM1, YEM9 YFN1	<h3 style="color: red; text-align: center;">BOATS FOR SALE</h3> <p>4.8m Allenco alloy dory- Honda 60Hp 20 hrs, GPS, Sounder, Spotlight, full cover, on alloy trailer - \$35,000 + GST</p> <p>13.3m wooden trawler, built 2009, Dong Feng D683ZLCA3B \$500,000 + GST</p> <p>17 mtr steel trawler, built 2016, Scania DI113071M (400Hp) \$3,250,000 + GST</p> <p>16.8 mtr steel trawler, built 2012, Scania D111259M (350Hp) \$2,500,000 + GST</p> <p>14m GOP McManaway, MTU 530Hp, 2014 - \$225,000 +GST</p>		
BCO1, BCO8 EMA1, EMA7 FLA1, FLA2, FLA3, FLA7 FRO7 GAR3, GAR8 GMU1 JDO3 KAH1, KAH2, KAH8 OEO1 PAD1, PAD2, PAD3, PAD5, PAD7, PAD8, PAD9 POR3 RCO3, RCO7	RIB8 SCH1, SCH2, SCH7, SCH8 SPD1, SPD3, SPD4, SPD5, SPD8 SPE2 SPO1, SPO8 SQU1J, SQU1T, SQU6T STN1 TRE7 WWA3, WWA4, WWA5B YEM1, YEM9 YFN1				
<h3 style="color: red; text-align: center;">QUOTA SHARES FOR SALE</h3> <table style="width: 100%;"> <tr> <td style="vertical-align: top;"> FLA3 GMU1 </td> <td style="vertical-align: top;"> PAD1 PAD2 </td> <td style="vertical-align: top;"> PAD5 PAD7 </td> <td style="vertical-align: top;"> PAD8 </td> </tr> </table>	FLA3 GMU1	PAD1 PAD2	PAD5 PAD7	PAD8	<div style="display: flex;"> <div style="flex: 1;"> <h3 style="color: red; text-align: center;">MARINE GEAR FOR SALE</h3> <p style="text-align: center;">Ling pots</p> </div> <div style="flex: 1;"> <h3 style="color: red; text-align: center;">ICEY-TEK INSULATED FISH BINS</h3> <p style="text-align: center;">600 ltr 760 ltr 1100 ltr</p> </div> </div>
FLA3 GMU1	PAD1 PAD2	PAD5 PAD7	PAD8		

DOMINIC PREECE
Managing Director

PHONE (03) 383 7282 | **MOBILE 027 406 0419** | quotabroker@xtra.co.nz | www.aotearoaquota.com
HEAD OFFICE | PO Box 6420, Dunedin North, Dunedin 9059

QUOTA FOR SALE

Shares for sale - preferably as per complete package listed.

All enquiries to:
Email: donna@finestkind.co.nz
Web: www.finestkind.co.nz

<div style="border: 1px solid white; padding: 5px; margin-bottom: 10px;"> Package One Shares with ACE FLA1 2,511kg GMU1 3,725kg GUR1 100kg SCH1 7,500kg SPO1 3,625kg TRE7 300kg </div> <div style="border: 1px solid white; padding: 5px;"> Package Three Shares with ACE FLA7 5,000kg </div>	<div style="border: 1px solid white; padding: 5px;"> Package Two Shares with ACE BIG1 16,998kg BWS1 76,023kg MAK1 3,586kg MOO1 1,2463kg POS1 695kg RBM1 142kg TOR1 3,671kg YFN1 6,528kg </div>
---	--



ACE LEASE AVAILABLE 2020-2021

SCH7	11.7t
HPB7	1.2t
LIN7	8t
BNS7	175kg

Enquiries to Glenn Orchard

glenn@gofly1.com

FOR SALE



8.2 meter Senator Hydraulic line hauler
Road and beach trailer
200hp Yamaha
Suitable for cray, dive or netting.

Phone: 021 111 0628

Email: jocornish1954@gmail.com



2020 is well underway and 2021 Tuna Season not far off. We are running the Specified Activity Endorsement program for extending limits to qualifying licences. This short allows approved licence holders to extend limits out to 100 miles. No minimum numbers, start anytime.

Zero Fees 2020

- Skipper Restricted Limits
- Advanced Deckhand Fishing

Call to see if you qualify for Fees Free for these programs

2020 Maritime Training

- **Zero Fees** Skipper Restricted Limits
- **Zero Fees** Advanced Deckhand Fishing
- Specified Activity Endorsement
- Maritime Restricted Radiotelephone Operator's Certificate
- Maritime General Radiotelephone Operator's Certificate
- Advanced Deckhand Fishing
- Skipper Coastal Offshore
- STCW Basic
- MEC6
- Workplace First Aid

Accommodation available

Contact Peter on 0274 507585

0800DEEPSEA - 08003337732

info@deepsea.co.nz

www.deepsea.co.nz



DISCOVER THE MANY BENEFITS OF SELLING YOUR CATCH AT SYDNEY FISH MARKET



WE'RE AUSTRALIA'S HOME OF SEAFOOD. We're the southern hemisphere's largest seafood market and Australia's premier destination for chilled seafood.

350 BUYERS... AND COUNTING! 14,000 tonnes of seafood is traded through our wholesale auction and direct sales facilities annually. Our large buyer base consists of wholesalers, retailers and restaurants attracted by the variety and quality of product on offer.

WE'RE COMMITTED TO SUSTAINABLE SEAFOOD.

We support and encourage responsible fishing practices, environmentally responsible farming practices and responsible fisheries management based on rigorous and sound science.

WE'RE COMMITTED TO A VIABLE SEAFOOD INDUSTRY.

We actively support the industry with initiatives which inject value back into fishing communities. We pride ourselves on the transparency

of our mechanisms of sale and activity, including our dutch auction which ensures fair market prices. We back this up with guaranteed weekly payments to our suppliers.

WE DO MORE THAN JUST SELL SEAFOOD. We develop and maintain best practice seafood handling and quality systems. These systems ensure our suppliers and our buyers are able to maximise their returns from their catch or seafood purchases.

☎ Call +61 2 9004 1105 to discuss opportunities with our Supply Department
✉ supplydept@sydneyfishmarket.com.au 🌐 www.sydneyfishmarket.com.au

